**THE KYRGYZ REPUBLIC**

**“BISHKEKTEPLOSET” JSC**

**Heat supply improvement project**

**FOURTH START-UP COMPLEX (from СК-В-9 to НС 4)**

**Environmental and social management plan for**

**Fourth start-up complex (ESMP -4)**

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**Abbreviations and definitions**

BTS “Bishkekteploset” OJSC

СК-В Viewing camera – Vostok (from Russian - смотровая камера - Восток)

DED Design and estimate documentation

DHS District heat supply

DTN Distribution thermal networks

EA Environmental assessment

EIA Environmental impact assessment

EIR Environmental Impact Report (OVOS)

EP Environment protection

EPP “Electric Power Plants” OJSC

ESMP Environmental and Social Management Plan

ESMP -3 Environmental and Social Management Plan for third start-up complex

ESMF Environmental and social management framework

FLM Fuel and lubricating materials

FS Feasibility study

Gc Giga Calories

GRM Grievance redress mechanism

HSIP Heat Supply Improvement Project

KR The Kyrgyz Republic

KRDF Kyrgyz-Russian Development Fund

LA Local administration

MA Monitoring and assessment

MPC Max. permissible concentration

NGO Non-governmental organization

OJSC Open joint-stock company

OP Operational policy

PB Polychlorinated Biphenyls

PIU Project Implementation Unit

PSC Project steering committee

RAP Resettlement Action Plan

RF Resettlement framework

RPF Resettlement Policy Framework

SAEPF State Agency on Environment Protection and Forestry

SanPiN Sanitary norms and rules

SEE State Ecological Expertise

SR Safety rules

SW Solid waste

ToR Terms of reference

TPP Thermal power plant

WB World Bank

**Environment and social management plan summary**

Heat supply improvement Project (HSIP) in the Kyrgyz Republic aims to improve effectiveness and quality of heat supply in the project target areas. Direct Executors of the HSIP will be BTS JSC and the Agency for Regional Development and Cooperation (ARIS). For project components which will be financed by the World Bank and executed by BTS and ARIS in accordance with WB procedures the Environmental and Social Management Framework (ESMF) was prepared which defines procedures and measures for prevention of negative consequences for the natural and social environment. ESMF passed public discussions and was approved by BTS, ARIS and WB. Its execution is obligatory for all Project participants.

In accordance with ESMF requirements, the Environmental and Social Management Plan is to be developed for each project component. Environmental and Social Management Plan (ESMP) which includes specific types of works and component location.

This Environmental and Social Management Plan (ESMP-4) was developed for fourth start-up complex of HSIP, which is to be executed by “Bishkekteploset” JSC.

ESMP-4 includes procedures and mechanisms, which will be involved by the Project in order to provide the protective policy of the World Bank 4.01 “Environmental assessment” and OP 4.12 policy “Involuntary resettlement” and also legislation and regulatory acts of the Kyrgyz Republic, regulating preparation and execution of environmental requirements and requirements for health protection and safety of workers at the Site and population during execution of works on the fourth start-up complex, which is in eastern part of Bishkek city on Shabdan Baatyr street from CK-B-9 (approximate landmark is Shabdan Baatyr street, a turn to the building of the International University of Kyrgyzstan) to HC 4 (approximate landmark is Pump station).

ESMP will ensure the environmental and social sustainability of the Project throughout the implementation cycle, as well as provide engineers and consultants with the appropriate institutional and regulatory framework for future processes and procedures that must be followed during:

1. identification of mechanisms for Environmental and Social Management Plan implementation, including assessment of conflict factors;
2. development of working documentation with integration of measures to mitigate social and environmental impacts, environmental monitoring and institutional responsibility in the overall project implementation plan by inclusion of ESMP in the tender documents to ensure financing and supervision with other project components;
3. identification of environmental monitoring requirements and institutional strengthening measures that contribute to the safe execution of work, as well as obtaining beneficial effects of this project.

Heat Supply Improvement Project (HSIP) in the Kyrgyz Republic (KR) aims to improve the efficiency and quality of heat supply in the project target areas:

(1) improving the reliability and efficiency of the central heating system in Bishkek,

(2) improving energy efficiency of public buildings.

Implementation of the Project will have a positive environmental and social impact and favorably affect the proposed project sites:

1. effectiveness and quality of thermal power supply for heating and hot water supply will be increased..

It is expected that the Project will cause certain short-term negative effects on air, soil, water and noise levels, especially during construction work. The general layout for fourth start-up complex is given in Appendix 1.

The following environmental impacts are expected: noise, impact on soil and water as a result of construction work, restriction of traffic during construction and restoration work, construction dust and garbage, as well as the safety of workers. However, these negative impacts will be temporary and depend on the construction site, and at the same time, they can be easily mitigated by taking appropriate measures to prevent and (or) mitigate. Negative impacts on the natural environment, protected areas, objects of historical and cultural heritage are not expected, as the project will be implemented in urban area.

However, a high degree of threat to the safety and health of workers and population during construction work and during the operation phase is possible. But it should be noted that these risks will be reduced by appropriate management and implementation measures. It is expected that HSIP will have a positive social impact on a wide range of stakeholders and beneficiaries, including residential, social and commercial consumers of BTS, who will directly benefit from the modernization of sections of the main heating network.

According to the results of preliminary environmental assessment (screening) and taking into account the requirements of the World Bank’s Operational Policy 4.01 “Environmental Assessment” regarding the type, location, sensitivity and scope of the project, the nature and extent of potential negative environmental impacts, according to the WB classification, HSIP belongs to Category B.

ESMP is a mandatory document that must be followed during the implementation of the project. ESMP consists of a set of mitigation, monitoring and institutional responsibility measures that will be taken during implementation and operation of facilities to eliminate negative environmental and social impacts, their compensation, or reduction to an acceptable level. Measures to mitigate the negative environmental and social impacts (Appendix 2) describe measures to mitigate the specific impacts resulting from the construction of heating networks or restoration work, the modernization of equipment at heating stations, including labor protection and safety, excavation, collection and disposal of solid and hazardous waste. BTS OJSC, through the PIU, will be responsible for monitoring the compliance of all measures financed under the Project with the World Bank's environmental and social protection policies applicable to the HSIP, as well as with the requirements of the national legislation of the Kyrgyz Republic. Environmental monitoring of the work will be carried out according to the ESMP described in this document. The PIU and corresponding departments of BTS OJSC (hereinafter CDBTS) will carry out this task on its own, as well as with the help of a consultant on social protection measures. Environmental and social monitoring involves regular inspection of all physical activities sites under the Project and monitoring the implementation of ESMP. Contractors and beneficiaries of the Project are required to comply with the developed ESMP of the Project. The contracting company should have specialized personnel responsible for the implementation of ESMP at the construction stage. The PIU and CDBTS will monitor the implementation of mitigation measures and the observance of good practice prescribed by these documents, and if deficiencies are identified, it will notify the project contractors / beneficiaries of the problems identified and will require corrective actions. In case of non-elimination of violations and serious violation of the requirements of ESMP, PIU will impose the prescribed sanctions for violation of the contract. ESMP will be included in the tender documentation for the work and contractors will be required to comply with the requirements of this documentation. The PIU and CDBTS are responsible for documenting environmental and social impact, monitoring by filling in forms of supervision at sites, keeping them, and preparing regular reports describing the results of monitoring. These reports summarize the findings of the work done in the field, consequences of works, analyze the common problems identified, explain the nature of the developed corrective measures to solve the problems, and assess the status of the corrective measures taken, taking into account the recommendations proposed in the previous reporting period. These reports will cover not only environmental and social protective provisions, but also environmental and social issues of a broader nature (for example, gender issues, consideration and resolution of grievances, etc.).

Consultations with project stakeholders, especially with the local community, which will be directly affected by the Project, are a mandatory requirement for the development of ESMP. Public comments will be considered in this document until they are finalized. After the development and approval of the WB, ESMP will be published in Russian and English on the BTS website (www.teploseti.kg), in the infoshop of the WB (www.worldbank.org), other relevant media and will be discussed with all interested parties of the HSIP. The consultation process will be carried out before any work on this section of the project begins. Public consultations will be held throughout the project, the public and stakeholders can comment on environmental and social aspects.

# Project background

Access to an uninterrupted and satisfactory heat supply has a decisive role in the well-being of the population and the provision of public services in the Kyrgyz Republic. Due to the cold climatic conditions and the long heating period, access to a reliable and acceptable source of heat supply is vital.

To solve this problem, the Government of the Kyrgyz Republic has prepared and is implementing a Heat Supply Improvement Project (HSIP), financed by the World Bank (WB) and the Kyrgyz-Russian Development Fund.

The largest district heating system (DHS) in the country is located in Bishkek. Thermal power plant (TPP) generates thermal power for more than 103,000 end-users (70% of households with access to DHS). The TPP is on the balance sheet of the state-owned open joint-stock company “Electric Power Plants” (EPP JSC), which also owns all major electric and heat power facilities in the Kyrgyz Republic, including the TPPs of Bishkek and Osh. Meanwhile, the state-owned company Bishkekteploset OJSC (BTS) is engaged in the operation of a heat distribution network supplied from TPP.

The key reason of reduced reliability of heat supply is “aging” and depreciation of infrastructure; more than 70% of heating and hot water systems in Bishkek were put into operation over 25 years ago, and, therefore, their operational life has ended. The proposed HSIP supports the tasks of the Government of the Kyrgyz Republic in the heat supply sector and helps to solve the repeated energy shortage in winter. In particular, measures to improve the efficiency and quality of heat supply to consumers connected to the largest DH system in the Kyrgyz Republic support the Government’s long-term strategy for the heat supply sector as follows:

1. help to prevent a further increase of electricity consumption for heating by improving the quality of the DH system in Bishkek;
2. complement the current modernization of the TPP with an optimized network, which will bring end-users favorable investment results;
3. guarantee that the current and planned increase in tariffs for heating and hot water supply is accompanied by an increase in the quality of heat supply and its uninterrupted operation.

# Description of the Project measures

HSIP in the Kyrgyz Republic aims to improve the efficiency and quality of heat supply in the project target areas. The direct executors of the HSIP will be BTS OJSC and the Agency for Regional Development and Cooperation (ARIS). For those components of the project that will be financed by the World Bank and implemented by BTS and ARIS, in accordance with WB procedures, Environmental and Social Management Framework document (ESMF) has been prepared that defines procedures and measures to prevent negative consequences for the natural and social environment. ESMF passed public discussions and was approved by the BTS, ARIS and the World Bank. Its implementation is mandatory for all project participants.

In accordance with the requirements of ESMF, for each component of the project, an Environmental and Social Management Plan (ESMP) must be developed, which takes into account the specific types of work and the location of the component.

Within the framework of the HSIP project, BTS will carry out the following components:

**Component 1: Improvement of reliability of heat supply and productivity of the DH system (estimated World Bank funding is in the amount of $ 31 million).** The component will support priority investments and capacity-building measures to help to improve the productivity and reliability of the DHS in Bishkek. The component will be implemented by BTS OJSC, which is responsible for the operation of the main distribution heat network and the provision of hot water services for residential, social and commercial consumers in Bishkek. On the balance sheet of BTS OJSC are the citywide distribution heating network, 19 booster pumping stations and heat-consuming installations of consumers. The service life of about 70% of heating networks has already exceeded 25 years, and the principle of designing pipeline networks, which was in effect at that time, is the dominant method for the gradual expansion of networks, replacement and repair of sections.

**Subcomponent 1.1: Priority Investment Program for the Reconstruction of the DHS (estimated WB financing in amount of $ 30 million).** Within the framework of this subcomponent, two priority investment packages will be implemented and related advisory services (for example, design and supervision) will be provided. Package 1 is aimed for the reconstruction of individual heating stations in buildings and is not considered in this document.

The activities described in this document will be implemented as part of Package 2:

**Package 2: Replacement and reconstruction of a section of the “Vostok” heating network, I. III. IV Start-up complexes**

Within the framework of this investment package, the most critical sections of one of the five main heating networks (Vostok, going from the TPP) will be replaced by pre-insulated pipelines (with a diameter of 200-900 mm), and the route will be partially changed (about 2.3 km of trenches and over-ground installation). The areas selected for replacement are outdated (service life from 30 to 50 years) and worn out due to aging of the metal, deep corrosion and loss of insulation.

To implement the whole Package 2, the part of the heat network to be reconstructed is divided into four sections (start-up complexes). Works on II start-up complex are completed. The works on each of 3 remaining complexes will be organized separately. This document describes fourth start-up complex of Package 2, which is located in the Eastern part of Bishkek city on Shabdan Baatyr st. from CK-B-9 (approximate landmark is Shabdan Baatyr st., turn to the building of the International University of Kyrgyzstan) to HC 4 (approximate landmark is a pump station).

The planned construction commencement date is April 2022, the planned completion date of construction is October 2022.

Reconstruction works of the section of the Vostok heating main network will be carried out from CK-B-9 (an approximate landmark is Shabdan Baatyra St., a turn to the building of the International University of Kyrgyzstan) to HC4 (an approximate landmark is a pumping station), according to the design documentation.

It is planned to carry out reconstruction of CK-B-9 at the site (an approximate landmark is Shabdan Baatyra St., turn to the building of the International University of Kyrgyzstan), then from CK-B-9 to the south to CK-B-13, lay 2DN-900mm pipelines of heating network in polyurethane foam insulation by underground method in reinforced concrete trays.

To carry out the corresponding transition of existing 2DN-700 mm pipelines to one designed 1DN900 mm from CK-B-13.

To lay the designed 2DN 900mm and 1DN 900mm on 3 DN900 mm in PU foam insulation pipelines in reinforced concrete trays from СK-B-13 to CK-B-14.

Reconstruction of CK-B-14 with the installation of sectional 2DN900mm valves with transition to 1DN1000mm pipeline (Supply system) and 1 valve DN 900mm in DN 900mm (Return system) followed by the relaying of existing pipelines from CK-B-14 to HC No. 4 (an approximate landmark is a pump station) to 1DN1000mm and 1DN900mm in PU foam insulation in reinforced concrete trays.

In CK-B-9a, CK-B-10, CK-B-13, CK-B-14. The existing consumers are to be switched from the reconstructed heating network.

Metering units should be installed in the pavilions between CK-B-13 and CK-B-14 without narrowing the diameter of the pipelines.

The length of the route is 745 m

Based on SNiP IV - 5 - 82 part IV chap. 5, the construction of this route is carried out in cramped conditions (along Alma-Atinskaya Street (Shabdan Baatyra) with intersection of streets and crossings) and is characterized by the presence of three main factors: the intensity of road traffic in the immediate vicinity of the Site; an extensive network of existing underground systems to be suspended or reassigned; the presence of a high-voltage line; as well as preserved green spaces in the immediate vicinity of the Site.

# 3. Preliminary environmental and social assessment

**3.1 Expected positive and negative environmental impacts of the Project**

The implementation of HSIP will have a positive environmental impact and will have a beneficial effect on the proposed project sites:

1. Increased efficiency and quality of thermal energy supply for heating and hot water supply will increase;
2. reduced consumption of fuel (coal, firewood, electricity, etc.) used by households for heating, reduced heat losses and improved energy efficiency in public buildings;
3. reduced threat to public health due to reduced air pollution in residential premises.

Possible negative impacts:

It is expected that the Project, especially during construction work, will cause certain short-term negative impacts on air, soil, water and noise levels. The following environmental issues are likely to be related to the activities under Component 1: noise, impact on soil and water resulting from construction works, traffic restrictions during construction and restoration works, construction dust and garbage, and workers safety. However, these negative impacts will be temporary in nature and associated with the construction site, and they can be easily mitigated by the implementation of appropriate measures to prevent and (or) mitigate.

Negative impacts on the natural environment, protected areas, objects of historical and cultural heritage are not expected, since the project will be implemented in the industrial zone.

Taking into account the location of construction sites in the capital, the available local potential and the scope of construction works, the organization of temporary camps for workers is not planned.

According to the results of preliminary environmental assessment (screening) and taking into account the requirements of the World Bank's Operational Policy 4.01 “Environmental Assessment” regarding the type, location, sensitivity and scope of the project, the nature and degree of potential negative environmental impact, the project belongs to Category B. According to the legislation of the Kyrgyz Republic, the Environmental Impact Assessment (EIA) for the heating network reconstruction project must be carried out, which has been done (see section 6 below).

**3.2 Social aspects**

The main beneficiaries of the HSIP will be women, since improved heat supply services will directly affect women in the first place. For informational campaigns, gender-differentiated messages will be prepared and various tools, prepared by the PIU and CDBTS, will be used to reach both men and women. The PIU and CDBTS will take certain measures to ensure the participation of women in community consultations, and will try to ensure the participation of at least 50 percent of women in community consultations. The PIU and CDBTS will provide convenience to the timing and places of public consultations for women, especially for daytime workers and women with children, as well as for women caring for older people and (or) people with disabilities. And also, at the request of women, if necessary, separate consultations will be held for women and men to ensure free discussion of issues.

The analysis revealed a number of stress-generating factors of the conflict. These stress-generating factors include: low public confidence in energy sector reforms, social explosions due to past energy tariff increases, a sense of unequal distribution of the Project's benefits and unresolved regional and ethnic tensions, as well as awareness of the socioeconomic and political ties between the energy sector and decision-makers of the country. Demographic changes and migration from rural to urban areas lead to an increase in the population in urban centers, which, in turn, puts additional pressure on utilities, including heating services. To mitigate these stress-generating factors, the project will ensure that no particular ethnic group or region is paid attention to. In addition, information about the Project will be made available for public awareness of the communities.

In order to effectively involve direct and indirect beneficiaries of the HSIP, a Grievance Redress Mechanism (GRM) will be established. It will be based on the policy of OP 4.12 “Involuntary Resettlement” in order to resolve grievances related to the resettlement process. GRM will cover various issues related to the overall implementation of the HSIP. GRM is described in more detail in Appendix 6.

# Description of basic environmental and social conditions

The location of Bishkek in the central part of the Chui valley, formed by the Kyrgyz mountain range (in the south) and the Chui-Ili mountains (in the north), mainly determines the characteristic of the wind regime in the city. Due to the high errors of the underlying surface, weak winds are observed in Bishkek city.

The wind regime of the city is characterized by a predominance of winds in the direction from the mountains to the valley; the average wind speed is not higher than 2-3 m/s, and the frequency of calm periods is 20%. During the year, on average, there are about 30 cases of wind amplification (speed up to 15 m/s and higher), mainly from the west. On average, every 5-7 years there can be strong winds with a speed of 25 m / s.

The prevailing wind direction in Bishkek is from the southeast to the southwest (50% of the time), while periods of calm are observed about 20% of the time.

The temperature regime of the region is due to a complex combination of solar radiation and atmospheric air circulation, which is more evident when alternating incoming warm air from the south and cold air from the north. The combination of these factors leads to a wide variety of daily, seasonal and annual temperature conditions. The average annual air temperature is 10.2°С.

A thaw in the daytime is a common occurrence in winter; an average of 18 days of thaw per month. Daytime temperature reaches up to 20°C. Meanwhile, there are periods of up to 30 days without a thaw, when the daily temperature is below 0°C.

The average monthly relative humidity ranges from 44% in June and July to 74% in March, and the average annual relative humidity is 60%.

During the year, precipitation level is 409 mm on average, usually from March to June.

The average annual atmospheric pressure is 929 mbar. The lowest average atmospheric pressure is recorded in July (922 mbar) and the highest - in November (936 mbar).

**4.1 Location and description of the Site**

The heating network is laid in the eastern part of Bishkek on Shabdan Baatyr street from CK-B-9 (approximate landmark is Shabdan Baatyr street, turn to the building of the International University of Kyrgyzstan) to HC 4 (approximate landmark is pump station). The construction site belongs to the 3B climatic subarea. The relief of the site is flat. The heating system is based on gravel soils. The seismicity of the construction site is 8 points. The groundwater level is located at a depth of more than 10 m. The freezing depth is 1.05 m.

There are no objects of cultural and historical heritage or resources of local or national interest near the proposed pipeline route. There are shrubbery, trees. There is a road not far from the pipeline. Construction works will be carried out in such a way as to minimize the impact on the population living near the construction site.

**4.2 Social and economical situation around the construction site**

The construction site is located in Bishkek city, Sverdlovsk district.

“Dubrovsky” Café, shrubbery and a gas station are nearby. The pipeline route runs along the lawn of a gas station, where there are no capital structures. Further, the pipeline route passes through the section of the “Dasmia” Cafe, where there are also no capital buildings.

Construction works on a section of the Dubrovsky cafe area are planned to be carried out from 24.03.2021 to 10.05.2021, before the start of the season of the café's summer grounds.

Fencing of the Dasmia cafe will be dismantled and re-installed after the construction is completed.

Prior to the commencement of construction work, borders (gas station) will be dismantled and reinstalled after completion of construction work.

The lawn (gas station) will be dug up and neatly folded in a safe place from construction. After the completion of construction work, the lawn will be re-laid.

During the construction works, no loss of income due to construction is expected, as full access to the gas stations, Dubrovsky and Dasmiya cafes will be provided.

The construction area (gas station, “Dasmia” Cafe) will be restored to its original state in accordance with the policies and procedures of the World Bank.

Appendix 2 describes the measures to be followed for the safety of road traffic and pedestrians.

There are no social and recreational objects, objects of cultural and historical heritage near the construction site.

# Legislative and institutional framework

The main regulatory legal acts regulating environmental protection, labor and safety in the Kyrgyz Republic (“KR”) are presented below. Other legislative and secondary laws applicable to the project are presented in Appendix 5.

**The Constitution of the Kyrgyz Republic (2010)** is the basis of the entire legislative framework. The Constitution provides for the right of all citizens to a favorable environment for life and health, and to compensation for harm caused to health or property by actions in the field of environmental use.

**The Law of the Kyrgyz Republic “On Environmental Protection” (No. 53 of 1999)** is the basis for comprehensive regulation of public relations in the field of interaction between society and nature. The law establishes the basic principles of environmental protection and defines measures to ensure environmental protection in terms of standardizing the quality of the environment, defining specially protected natural areas, establishing rules and procedures for managing natural resources, introducing an environmental monitoring and surveillance system, as well as strengthening response procedures for emergencies. The law prohibits the financing and implementation of projects related to environmental use, without a positive opinion of the state environmental expertise.

**The Law of the Kyrgyz Republic “On Ecological Expertise” (No. 54, dated 1999)** ensures compliance of economic and other activities with the environmental requirements. The law is applied to projects that may have an impact on the environment, including feasibility study and design documentation for construction, reconstruction, expansion, technical modernization, as well as to other projects that may have such an impact, regardless of their estimated cost, departmental affiliation and forms of ownership. The law obliges the initiator of the project to submit the necessary documents related to the project and its environmental impact in order to conduct a state environmental review. The law obliges the initiator of the project to submit the necessary documents related to the project and its environmental impact in order to conduct a state environmental expertise. The expert commission of the State Agency for Environmental Protection and Forestry is responsible for reviewing the submitted documents. To finance or implement a project, a positive conclusion of the state environmental expertise is required. A negative conclusion will lead to a prohibition of project implementation. In the Kyrgyz Republic, two types of environmental expertise are carried out: state and public (the conclusion of a public environmental expertise is advisory).

**The Law of the Kyrgyz Republic “General Technical Regulation for Ensuring Environmental Safety in the Kyrgyz Republic” (No. 151, dated 2009)** defines general requirements for ensuring environmental safety in the design and implementation of economic and other activities for the production, storage, transportation and disposal of products. The law establishes the types of economic activity subject to environmental expertise and their hazard categories (I, II and III), which are determined depending on the volume of environmental pollution, the amount and composition of harmful substances released into the atmosphere, discharged onto the terrain or water, as well as disposed waste. The hazard category is determined by the state authorized body on the basis of information provided by the subject of economic and other activities.

**The Law of the Kyrgyz Republic “On Production and Consumption Wastes” (2001)** regulates relations arising in the process of generation, collection, storage, use, neutralization, transportation and burial of production and consumption wastes, state administration, supervision and control in the field of waste management. preventing the negative impact of production and consumption wastes on the environment and human health when handling them, as well as maximizing their involvement in economic turnover as an additional source of raw materials. In accordance with the law, activities of legal entities and individuals related to waste management are subject to licensing in accordance with the Law of the Kyrgyz Republic “On Licensing”.

**The Regulation on the Environmental Impact Assessment Procedure in the Kyrgyz Republic (2015)** defines the procedure for assessing the environmental impact of the proposed activity.

Environmental Impact Assessment (“EIA”) consists of the following stages:

(1) decision on EIA,

(2) preliminary EIA (based on feasibility study of the project)

(3) EIA (based on the design documentation – design, working design) and

(4) post-project analysis of pro (carried out in a year after the start of activities).

For facilities with a low level of environmental impact specified in the Regulation, only a statement of environmental consequences is filled in.

**The Law of the Kyrgyz Republic “On atmospheric air protection” (1999-2016)** defines the main principles of the Kyrgyz Republic aimed to ensure the purity of atmospheric air and improvement its quality, prevention and mitigation of chemical, physical, biological and other effects on air quality. According to the law, the contractor undertakes to carry out demolition or construction activities, as well as transportation and temporary storage of waste, minimizing dust and other emissions into the air.

**The Law of the Kyrgyz Republic “On ensuring fire safety” (2016)** is aimed at protecting the life and health of citizens, property of individuals and legal entities, state and municipal property from fires, defines the main provisions of technical regulation in the field of fire safety and establishes general fire safety requirements for products, objects of protection, including buildings and structures, production facilities, fire-technical products and general purpose products.

**The Law of the Kyrgyz Republic “On the Protection and Use of the Plant environment” (No. 53 of 2001)** establishes the legal basis for ensuring the effective protection, rational use and reproduction of the resources of the plant environment.

**The Law of the Kyrgyz Republic “On Industrial Safety of Production Facilities” (No.160, 2016.)** defines the legal, economic and social basis for ensuring the safe operation of hazardous production facilities and is aimed at preventing accidents at hazardous production facilities and ensuring the readiness of legal entities operating hazardous production facilities to localize and eliminate the consequences of these accidents.

**The Law of the Kyrgyz Republic “On labor safety”** **(No. 167, 2003)** establishes the legal framework for regulating relations in the field of labor safety between workers and employers and is aimed at creating working conditions that meet the requirements of safety, occupational health and the working environment.

**The Law “On Access to Information, administered by the State and Local Government of the Kyrgyz Republic” (No. 213 of December 28, 2006)** regulates the rights and obligations of state bodies to provide information to the local population in order to achieve transparency of work.

In addition to the legislative acts listed above, a number of regulatory documents are in force in the Republic that define the requirements for import, registration, hazard assessment of chemicals and waste, and the assessment of the impact of economic activity on the environment and health.

There are more than one and a half hundred laws and regulations in the field of environmental protection, which can be found on the link on the website of the SAEPF www.nature.gov.kg

The legislative acts listed above define the following key environmental objectives related to the HSIP:

* standards for the use of natural resources;
* protection of air, land and water from pollution, clogging and depletion;
* improvement of environmental monitoring system;
* norms of the most safe levels of noise, vibration and other hazardous physical influences.

**5.1 Institutional framework for environmental assessment and management, labor and fire safety**

A number of government departments are responsible for managing and protecting the environment in the Kyrgyz Republic, as well as labor protection and ensuring safety. The lead agency is the State Agency for Environmental Protection and Forestry, which is authorized to ensure compliance with environmental laws.

*Table 1*

*The main government agencies performing functions to ensure the protection of the environment, labor and safety*

|  |  |
| --- | --- |
| **Agency** | **Corresponding functions** |
| State Agency for Environmental Protection and Forestry under the Government of the Kyrgyz Republic (SAEPF);  Department of ecological monitoring | 1) sets the state policy on environmental protection;  2) promulgates norms of quality and standards of environmental protection;  3) establishes special protected areas;  4) establishes the environmental monitoring system;  5) carries out ecological review on project design and performing economic activity.  Carries out impact monitoring for atmospheric pollution. |
| State Inspectorate of Environmental and Technical Safety under the Government of the Kyrgyz Republic. | Carries out state supervision and control over the implementation of environmental and technical safety requirements. Carries out state supervision and control over compliance with labor and fire safety requirements.  Carries out the architectural and construction supervision. |
| Ministry of Health (MH);  Department of Sanitary Epidemiological supervision (SES). | Performed bacteriological and chemical monitoring of the quality of drinking water. |
| Agency for Hydrometeorology under the Ministry for Emergency situations of the Kyrgyz Republic (Kyrgyzgydromet). | Monitors the state of atmospheric air and surface water. |
| Kyrgyz state design institute for land management under the State Registry of the Kyrgyz Republic (Kyrgyzgiprozem). | Carries out a number of measures on land management and land cadaster throughout the territory of the Kyrgyz Republic, regardless of the legal form of land users. |

**5.2 World Bank safeguard policies**

According to World Bank safeguard policies, an Environmental Assessment (EA) is a process prior to the implementation phase of a project that assesses the potential environmental risks of the project and its impact; alternatives to the project are being studied; ways to improve the selection, location, planning, design and implementation of the project are identified by preventing, minimizing, mitigating or compensating for damage caused by negative environmental impacts, and by improving the positive impact. EA includes processes for mitigating and managing negative environmental impacts during project implementation. An EA is required for projects that may have a potentially negative impact. Moreover, public consultation is mandatory at all stages of the process.

There are 10 + 1 World Bank environmental and social safeguard policies which are intended to ensure that the potential negative environmental and social impacts of World Bank-funded projects are identified, minimized, and mitigated. The World Bank's safeguard policies related to the project and their applicability to the project are presented in Table 2 below.

*Table 2*

*World Bank safeguard policy and their applicability to HSIP*

|  |  |
| --- | --- |
| **Safeguard policies** | **Applicability** |
| Environmental assessment (OP/ВP 4.01) | This OP is applied if the project can have a negative environmental and social impact associated with the project activity, including soil degradation, water and air pollution, labor protection and health effects, etc. It is also expected that such potential impacts will, for the most part, be temporary by nature and site specific. In order to prevent such an impact, an ESMP document was prepared, which defines the rules and procedures of the EA for the project. |
| Involuntary resettlement (OP/BP 4.12) | This OP is applicable as activities under subcomponent 1.1, in particular, the construction of a bypass and the replacement of the most depreciated and critical sections of the transmission network may result in economic relocation. |
| Disclosure policy (ОP/BP 17.50) | Prepared ESMP and RFP after Bank approval will follow the principle of information distribution and allocated on the site of BTS PIU and on Infoshop of the World Bank. |

The Bank conducts an environmental study of each proposed project in order to determine an acceptable degree and type of EA. The Bank classifies the proposed project into one of three categories, depending on the type, location, degree of vulnerability and scope of the project, as well as the nature and magnitude of potential environmental impacts.

For all Category A and B projects proposed for financing by the World Bank, during the EA process, the borrower consults with all parties involved, including affected groups and non-profit organizations (NGOs) on the environmental aspects of the projects, and takes into account their views. For meaningful consultations between the borrower, project affected groups and local NGOs, the borrower provides relevant materials in a timely manner prior to consultations and in a form and language that are understandable and accessible to the groups being consulted. Any Category B EA report on a project proposed for World Bank financing is made available to project affected groups and NGOs. Availability of such groups in the borrowing country and the Category B EA report on projects proposed for World Bank financing are prerequisites for the World Bank appraisal of these projects.

When planning and implementing measures to protect the health and safety of the local population (fencing of the construction site and trenches, bridges over trenches and bypass paths, fencing of passageways for citizens to access enterprises adjacent to the construction site, lighting in the dark), the same activities will be applied as during ensuring safety at the construction site.

**5.3 Comparison of national legislation and World Bank environmental assessment requirements**

While the basic provisions of the National EA rules and procedures are to some extent similar to the WB requirements, there is a difference related primarily to categories of preliminary environmental assessment (screening). The national legislation specifies the types of economic activities subject to mandatory environmental expertise. National EIA (or OVOS) procedure comprises following stages:

(1) decision of conducting EIA;

(2) preliminary EIA (based on project feasibility study);

(3) EIA (based on project basic design and detail design documentation);

(4) after project analysis (conducted after one year after commencement of the activity).

For units having insignificant level of environmental impacts, listed in relevant legislation, inly filled form of Statement on Environmental effects is required. Two types of environmental assessments can be carried out in the Kyrgyz Republic: State and Public. The conclusion of the latter is advisory in nature.

In case of inconsistency between national legislation and WB policies, WB provisions shall prevail.

# Project scope of works

An EIA was carried out as a part of the design documentation, which passed an expertise in 2018 (decision No. 702 / P192B of November 21, 2018, in Appendix 12).This EIA describes the construction activities carried out within the framework of the Project and measures to minimize the possible impact on the environment.

EIA facilitates the adoption of an environmentally-oriented management decision by assessing potential adverse impacts, identifying environmental consequences, taking public opinion into account, and developing measures to minimize negative impacts.

Reconstruction of the section of Vostok main network will be executed from CK-B-9 thermal chamber (an approximate landmark is Shabdan Baatyra St., turn to the building of the International University of Kyrgyzstan) to HC 4 (approximate landmark is a pump station) in accordance with the design documentation.

The planned construction commencement date is April 2022, the planned completion date of construction is October 2022.

The Contractor, based on its capabilities, will develop the site in full simultaneously or partially.

It is planned on the site to reconstruct CK-B-9 (an approximate landmark is Shabdan Baatyra St., turn to the building of the International University of Kyrgyzstan), then from CK-B-9 to the south to CK-B-13 the pipelines of the heat network 2Dn-900 mm in the polyurethane foam insulation underground are to be laid in reinforced concrete trays.

From СК-В-13 to make the corresponding transition of existing pipelines of 2 Dn-700 mm to one designed 1 Dn 900 mm.

From СК-В-13 to СК-В-14 to lay the designed pipelines 2 DN 900mm and 1 DN 900mm by 3DN900mm in polyurethane foam insulation and in reinforced concrete trays.

Reconstruction of CK-B-14 with the installation of sectional 2DN900mm valves with transition to 1DN1000mm pipeline (Supply system) and 1 valve DN 900mm in DN 900mm (Return system) followed by the relaying of existing pipelines from CK-B-14 to HC No. 4 (an approximate landmark is a pump station) to 1DN1000mm and 1DN900mm in PU foam insulation in reinforced concrete trays.

In CK-B-9a, CK-B-10, CK-B-13, CK-B-14. The existing consumers are to be switched from the reconstructed heating network.

Metering units should be installed in the pavilions between CK-B-13 and CK-B-14 without narrowing the diameter of the pipelines.

The length of the route is 745 m

Based on SNiP IV - 5 - 82 part IV section 5 the construction of this route is carried out in cramped conditions (along Alma-Atinskaya street (Shabdan Baatyra) with cross of streets and crossings) and is characterized by the presence of three main factors: the intensity of road traffic in the immediate vicinity of the Site; an extensive network of existing underground lines to be suspended or reassigned; the presence of a high-voltage line; as well as preserved green spaces in the immediate vicinity of the Site.

Work performance will be guided by SNiP 3.02.01-87 "Civil works, basis and foundations".

Before the commencement of civil works, representatives of the construction organization, together with representatives of the Client will check the correctness of the breakdown of the heating pipeline by seizure in nature and draw up an appropriate act with the attachment of breakdown schemes.

Trenching for laying pipelines is carried out on the basis of a geodetic alignment scheme, longitudinal and transverse profiles. Anchoring the axis of the route is carried out with milestones driven into the ground after 10 m on straight lines and 5 m on curved sections, as well as at the turning angles of the route.

Prior to the commencement of civil works at the locations of existing underground lines, measures for safe working conditions must be developed and agreed with the organizations operating these lines, and the location of underground lines on the ground is indicated by appropriate signs or inscriptions.

Before starting work, layout of underground lines is to be available.

When carrying out construction and installation work in the security zone of the power transmission line, it is necessary to obtain a written permission from ChuPVES (Chuy enterprise of high-voltage power grids), which should indicate - the section of the operating electrical installation where the work will be carried out, the timing of the work (start and end), responsible person of the operating enterprise, who is to be informed about the completion of work, the presence of hazardous and harmful factors near the operating power line, if any.

Before starting work, it is necessary to provide ChuPVES with a list of responsible work managers. The personnel carrying out the reconstruction of the heating system must pass electrical safety training, taking into account the characteristics of the sites.

All works will be organized in such a way as not to impede pedestrian access and traffic, or temporary alternative access roads will be organized during work implementation,

Work sites should be fenced, fences and warning signs installed to prevent accidents.

Banners should be hung with the inscription that construction works are under way to make the local population more careful.

Night lighting is to be arranged, if necessary.

After the completion of construction work, all plantings will be restored in full.

**6.1 Environmental and social benefits**

The project will have generally positive environmental and social impacts in the proposed project sites. The expected benefits of investing in Component 1 include: (i) reduction of thermal power losses and hot water leaks due to the installation of modernized heat stations, thermal power and hot water meters at the building level, as well as pre-insulated pipes, (ii) improvement of reliability and quality of heat supply through priority measures aimed at the most worn sections of the main distribution pipelines, and improvement of temperature regulation and consumption of thermal power at the building level, (iii) increasing the capacity of distribution networks for end users.

**6.2 Negative environmental and social impacts**

It is expected that the project will cause certain short-term negative impacts on air, soil, water and noise levels, especially during construction works: noise, impact on soil and water resulting from construction work, restriction of traffic during construction and restoration works, construction dust and garbage, as well as worker safety. However, these negative impacts will be temporary and associated with the construction site, and they can be easily mitigated by the implementation of appropriate measures to prevent and (or) mitigate. Negative impacts on the natural environment, protected areas, objects of historical and cultural heritage are not expected, since the project will be implemented in urban area.

Social risks, being limited, include the perception of the uneven distribution of benefits from the project, which takes place in view of existing socio-economic or ethnic tensions. Insufficient awareness of residents, particularly women, can lead to weak project support and unequal participation of the population.

As a result of the implementation of project activities, the following main negative environmental impacts are possible, the measures to prevent these impacts are described in the next section 6.3 and in Appendix 2 "Measures for mitigation of negative environmental and social impacts",:

**Noise, vibration and temporary pollution of the air.** During underground, various construction works and transportation, a significant noise increase is expected. Construction facilities and equipment include excavators, stabilizers, concrete mixers, drills, car distributors, depth vibrators, concrete pumps, loading machines and other heavy machineries.

It is recommended to avoid temporary construction of barracks for housing near construction sites, because all work will be carried out in Bishkek and in the vicinity of residential areas. Workers involved in construction can be accommodated in residential areas.

Dust will be generated as a result of excavation, transportation of construction materials/waste, and freight traffic. Dust and smoke from bitumen due to road construction work will have local and temporary negative effects on air quality. A significant increase of noise levels is expected during demolition, construction and transportation, in particular during excavation, pneumatic drilling, construction cranes, dismantling or installation of equipment. Noise and vibration will cause concern of local residents if the works are carried out in the vicinity of residential areas.

During construction period, during 8-10 hours of the working day, a large amount of construction waste will be transported to and from construction sites. Therefore, it is important to ensure that freight transport and other transport machineries do not exceed noise standards during construction work, observing noise criteria and protecting the local population.

Expected sources of air pollution due to construction works in this area include dust, generated as a result of: a) civil works, loading, transportation and unloading; the movement of vehicles and heavy machinery on unpaved access roads and driveways; b) preparation of construction mixtures, mixing concrete and their transportation; c) exhaust gases of vehicles and equipment.

Dust emissions are also due to site conditions, mechanization and construction management.

**Soil quality.** Rainwater from construction sites can contaminate the soil. Therefore, one of the most important tasks is to protect the rainwater sewage system so that the soil leached from the construction site does not fall into them.

**Impacts on biodiversity.** During construction works, the necessary excavation works for the construction of pipeline trenches can damage the vegetation cover and lead to the cutting of green spaces. Pits for construction materials, disposal of excess material and waste can disturb the wildlife, including affecting the natural habitat. However, since all works will be carried out mainly on the developed territory, significant damage is unlikely, as well as impacts on cultural heritage sites or the natural habitat.

**Gutter pollution.** During replacement of pipes, pumping stations and maintenance of other equipment, the water from the pipes and the heating system will turn into waste water. Surface and ground water pollution during construction is possible due to: a) discharge of household wastewater and wastewater in the areas of construction works; b) water after washing vehicles and equipment maintenance; c) runoff of mud waters together with particles on rainy days. All measures will be taken to maximize the prevention of water leakage from the system, and washing vehicles will be carried out only on specially equipped sites.

**Seismic zone.** According to the Institute of Seismology of the National Academy of Sciences of the Kyrgyz Republic, the city of Bishkek is located in a zone of seismic activity with a magnitude of 8 and higher (8, 9 and> 9). When designing and constructing the pipeline and foundation in this area, in is necessary to study the potential seismic factors carefully.

**Formation of recovered material and construction waste.** Solid waste generated during construction is abandoned construction materials, scattered sand, stones, pieces of concrete and household waste. This solid waste is harmless, but it can affect the sanitary condition of the environment at the construction site, make it difficult to move and transport, damage the surface of roads, further increase vehicle exhaust emissions and pollute the surrounding air.

Mineral wool and asbestos wastes are also possible. These are hazardous wastes.

**Hazardous production factors due to construction works.** A direct impact on the safety and health of people during the construction of the planned heating network can be caused by various factors, for example, high-altitude work, the operation of cranes and bulldozers, welding, and sanitary conditions, work in a limited space (passage channel), etc. The potential impact on the safety and health of workers is also associated with possible work-related injuries during construction (falling pipes, structures) or contaminated drinking water or food.

**Objects of cultural and historical heritage.** There are no cultural heritage objects or resources of local or national importance near the proposed route. Provisions governing actions in case of accidental finds are included in this ESMP.

**Trans boundary impacts.** The proposed project will not cause any trans boundary impacts.

**Traffic.** Construction works and traffic can lead to traffic jams and inconvenience to the public due to: (a) an increase of vehicles for the transport of materials and solid waste; and 2) deterioration of the condition of roads after milling of pavement, civil works and leveling of the surface. This can lead to negative consequences on narrower roads and increase the flow of vehicles. And will there be an impact on the movement along the railway lines?

Impact on railway traffic is not expected, since the pipes will be laid through the existing through concrete channel, which passes under the existing railways.

Any efforts will be taken to minimize the time construction machineries and trucks are on the road in order to prevent any incidents or damage to property. Special staff of the construction company will temporarily stop traffic, if necessary, and drivers will be warned that they should be careful. This staff will also regulate traffic when passing heavy machinery.

**Safety and health of people when performing flame and electric welding works close to gas stations.** In the process of flame and electric welding works, smoke and gas are emitted, which are dangerous, therefore, their inhalation is extremely undesirable. If the work is done indoors, then there must be very good ventilation. Works should be carried out using individual protective means, namely a mask or goggles, in order to exclude the harmful effect of the welding arc on the cornea of the eyes. It is advisable to choose clothes so that there are no bare skin. It should be made of non-combustible material.

**Safety and health during construction works.** During construction, public health and sanitation are a critical public health problem. Work areas will be fenced, warning signs will be displayed. In this regard, sanitary and hygienic control will be carried out, including over air quality, food quality and water supply. In addition, first-aid kits and medical services will be provided.

**Social impacts.** Minimal negative social impacts are anticipated at the construction stage, and they will be limited by anxiety from noise, vibration and, possibly, some traffic disturbance in these sections of the pipeline route located near residential areas. Local residents should be notified in advance of upcoming work and a temporary break in the provision of municipal or communication services due to road works. There is a possibility that local residents will experience anxiety caused by improper behavior of contractors, or observing the negative impacts of ongoing work, while they will not know how to voice their concerns and express their weighty word.

To avoid above mentioned situations, the Contractor shall prepare a Code of Conduct and comply with this document.

Also, for grievances, claims and appeals of citizens, the GRM has been developed. (Appendix 6).

The Contractor shall maintain a safe buffer zone so that communities living and using the surrounding area do not have access to the construction site and are not exposed to hazardous conditions caused by construction activities.

It is assumed that workers from among local residents living near the construction site will be hired for installation and construction works. In this case, the contractor will not organize temporary housing for workers.

**6.3. Measures for mitigation of negative environmental and social impacts**

Mitigation measures are described in detail in Appendix 2 Measures for mitigation of negative environmental and social impacts. Here is a brief overview.

**Organizational measures.** All works should be performed only after obtaining the necessary permits and approvals.

Prior to the commencement of construction work, the public, local inspectorates for construction supervision and environmental protection will be provided with full information about upcoming activities through the media or in areas open to the public (including work sites), as well as through public consultations on ESMP. All measures required for the implementation of protective measures for environmental protection and monitoring should be planned and foreseen in the budget of the work plans of the Client, contractors and subcontractors. All works should be carried out in a safe and disciplined manner, with minimal impact on the population and the environment.

**Readiness to emergency situations and liquidation of consequences.** An effective plan for readiness to emergency situations and liquidation of consequences should be developed to solve dangerous situations associated with an emergency failure of the heating network pipeline during the operation phase.

**Combating air pollution, minimization of dust and noise.** Vehicles delivering small and / or bulk materials to construction sites will be covered with protective sheets. Overloading vehicles should be avoided. Vehicle speed at construction sites will be monitored.

To moisten the roads leading to the construction site, water carriers will be used twice a day in case of dry weather in accordance with the daily schedule and taking into account weather conditions. The streets will be kept clean without disturbing their durable and even surface. They will be cleaned of dust, dirt and foreign materials that have fallen from vehicles.

During construction (restoration) measures, it is necessary to store demolition waste in a controlled area, spray it with water to reduce dust formation. During the operation of pneumatic equipment / destruction of walls, supports, the occurrence of dust should be suppressed by the constant spraying of water and / or the installation of anti-dust barrier screens at the Site. Open burning of construction / waste materials at the Site is not allowed. When transporting any dust-forming materials to the recovery site, the cargo should be sprayed or covered. The formation of dust at the restoration site in the dry season can be minimized by irrigating the land.

Construction machineries will be properly maintained to minimize noise. In order to close the noise sources during the operation of the stacker, devices or methods for noise reduction (temporary fences or noise barriers) will be used.

Operation of equipment that generates high noise levels will be limited near sensitive areas (hospitals, schools, administrative buildings, etc.) and will end from 10:00 p.m. to 6:00 a.m. in accordance with national requirements. The movement of heavy vehicles on adjacent roads will also be limited from 10:00 p.m. to 6:00 a.m. For large trucks, an appropriate route will be chosen in order to avoid residential areas.

**Reducing the impact on the soil-plant layer.** On rainy days, excavation should be avoided. The removed soil top layer will be stacked. The soil from the tires of construction machineries will be regularly cleaned. After construction, the withdrawn soil will be backfilled at the same construction site. After backfilling the soil and leveling the ground, trees and grasses will be planted there. Construction workers should work in such a way as to minimize the "ecological footprint" on the site. The movement of vehicles and construction machineries is permitted only along designated access roads to prevent damage to grass and other vegetation along the site. If tree cutting is necessary within the right-of-way to provide space for leveling the line of the road, establishing roadsides or ensuring the operation of construction machineries, then strict control measures should be taken to prevent the cutting of an excessive number of trees and damage to others trees growing near. In the event that cutting of trees and bushes is inevitable, the damage will be compensated by planting trees/bushes in places agreed with the authorities.

**Prevention of soil erosion**. Civil works can be carried out for a long time along the Site and in pits. Soil compaction, improvement and restoration of excavated soil areas should be carried out immediately after completion of work in certain areas of the affected area, rather than postponing such work until the work is completed. Sawing or planting of vegetation should be undertaken as necessary to prevent erosion. The soil and plant layer must be removed from the sites and stored separately during excavation, so that it can then be used to restore the site and restore the natural vegetation as much as possible. The use of existing pits to prevent massive environmental trace should be encouraged.

**Prevention of soil and water pollution.** Maintenance and fueling of construction vehicles and machinery should be carried out in service centers located as far as possible from the site of work. In the case of performing these works at the Site, an impenetrable surface for refueling should be provided and a supply of absorbent substances should be available in case of an emergency spill. Vehicle washing should be prohibited near surface of water sources. Storage of construction materials should not be allowed, if possible. Otherwise, the construction material should be stored at the construction site, and protected from atmospheric conditions. Used motor oil, reserves of fuels and lubricants and other hazardous substances must also be stored on an impermeable surface, under a canopy, and must be protected from fire. Storage areas for such materials should be equipped in such a way as to prevent spills from being washed off to the surrounding surface.

Environmentally friendly mobile toilets and storage tanks for fuels and lubricants will be installed in the builder camp. Sewage from reservoirs of waste fuels and lubricants will be removed by a specially authorized company. Similarly, wastewater will be collected from mobile toilets, treated in septic tanks and discharged into an existing sewing system by a specially authorized local company. Unauthorized wastewater discharge is prohibited.

To prevent pollution of soil and surface ground water, an operational instruction for handling chemicals will be developed and implemented (providing, for example, storing chemicals away from water flows and allocating special places to prevent accidental pouring of toxic and harmful construction materials such as caustic and acid substances, oil and oil products). An emergency situation prevention and response plan will be developed and implemented to educate workers on the safe and proper handling of chemicals to avoid accidental spills and to respond to emergencies in the event of a spill.

In the event that residential buildings for workers are located in construction camps, they must be provided with toilets with a dry earth system (vessels), which must be cleaned and stored in strict sanitary conditions.

**Waste collection and disposal.** Waste formation will be minimized. Outdoor burning and illegal dumping of any waste is strictly prohibited.

Non-hazardous waste - demolition waste and other, as well as waste containing asbestos, will be disposed of at specially designated landfills in Bishkek. Excess excavated soil will be returned to officially designated areas. The construction contractor will need to obtain permission from the authorized bodies for waste collection.

Construction waste containing asbestos plaster, mineral wool and ruberoid will be disposed of at an officially designated solid waste landfill. The construction contractor will need to obtain permission from the authorized bodies for the disposal of construction waste.

Obsolete equipment and materials will be stored in the premises of BTS before they are sold or reused by the BTS.

Maintenance of construction machineries and vehicles will be carried out only in specialized service centers, which also accept worn tires, filters and used oil. Maintenance and repair of construction machineries at the place of work is not allowed.

Waste containers will be placed to collect household waste from the construction site and construction base. The issue of regular collection of household waste should be agreed with the Bishkek city council.

**Handling asbestos, ruberoid and mineral wool.** The general approach when handling these materials is that construction companies should not allow crushing (or) destruction of waste; ensure their burial in a closed area in order to prevent their unauthorized removal by any persons. In addition, construction companies should also not allow the release of asbestos fiber into the air as a result of crushing. Workers should wear special clothing, gloves and respirators when working with asbestos plaster, ruberoid and mineral wool. The use of asbestos-containing materials is not allowed within the project.

**The procedure for discovery of accidental finds of cultural value.** In the event of “accidental find” is discovered during excavation, the contractor must immediately stop all physical work at the Site and inform BTS/PIU. BTS/PIU must transmit information to the Ministry of Culture, Information and Tourism, and suspend work until a written notice is received from the Ministry with permission to resume work.

**Traffic and pedestrians safety.** Work sites, storage of waste and materials, work camps should be fenced and marked with warning signs. Access roads must be clearly marked. Work on the distribution pipeline should be planned and undertaken in such a way as to minimize traffic disturbance and risk to local residents. Personnel operating construction machineries and heavy vehicles must have the appropriate licenses and be trained; contractors and subcontractors are responsible for this.

If necessary, before the start of construction works, plans will be developed for regulating traffic flow together with local traffic control authorities. To avoid rush hours and reduce jams, the appropriate transportation hours and routes will be defined.

Pedestrians will not be allowed into the Site.

**Safety and health of people during construction works.** Contractors will need to take safety measures at the construction site to protect workers and the public, including providing appropriate individual protective means and installing signs warning the public about potential safety risks at and around construction sites.

Signs will include GRM phone numbers and contact details.

Construction workers must wear safety helmets, safety glasses, safety belts and safety shoes. Before starting construction work, workers must be informed and sign the developed and prepared Code of conduct. Workers shall be trained on safety rules. In addition, it is necessary to conduct a regular check of machinery and equipment in order to identify and eliminate malfunctions, observe periods of equipment repair, conduct training and instructing workers performing maintenance of mechanical equipment, tools and devices on safe methods and means of work. It is forbidden: to provide defective or unverified tools for work, as well as to leave unattended mechanical tools connected to the electric network or to compressed air hoses; pull out and twist cables and air hoses; cables and hoses must not intersect with wire ropes, electric cables; it is not allowed to hold rotating elements of power tools. It is necessary to strictly observe the applicable national regulations on the safe operation of cranes / excavating machineries and the implementation of welding work.

Suppliers will provide guidance on the operation and maintenance of the equipment. The equipment operators and Site manager will constantly have operational safety training, facility maintenance. In addition, accident situation procedures and action plans will be developed. Periodic theoretical and practical training on safe operation will be provided during the operation of the district heating system.

**Resolution of issue related to disturbance of local communities.** Local communities should be notified of the timing and extent of planned work. Contact details and GRM procedures will be included in the information provided to the local stakeholders. In the event that construction and restoration works cause temporary interruptions in the provision of communal or communication services, then service users must also be notified of them in advance. If work is carried out near or in the vicinity of residential areas, then working hours should be strictly limited to daytime and the area should be sprayed with water to prevent dust formation. Special signs and, possibly, a fence should be used to provide an access only for the authorized people. Speed of vehicles in residential areas should be limited. Temporary storage of construction materials and garbage, as well as parking of construction machineries should not block or restrict the access of local residents to their property and public places or, if this is inevitable, alternative temporary access roads should be arranged.

Preparation and development of ESMP is a mandatory document that must be followed during the implementation of the project. ESMP consists of a set of mitigation, monitoring and institutional responsibility measures that will be taken during implementation and operation to eliminate negative environmental and social impacts, their compensation, reduction to an acceptable level. ESMP ( Appendix 2) describes measures to mitigate the specific impacts as a result of restoration works or the construction of heating networks, modernization of equipment at heating stations, including labor protection and safety, civil works, and the collection and disposal of solid and hazardous waste.

Grievance Redress Mechanism

BTS will develop and will effectively manage a Grievance Redress Mechanism which covers different problems related to the general implementation of the Project, including giving all affected persons, employees and non-working people, the opportunity to report their problems, grievances and resolve them according to the prescribed procedure (see. Grievance redress mechanism Appendix 6).

# Responsibilities and institutional arrangements

The State Committee for Industry, Energy and Subsoil Use has overall political responsibility for the preparation and implementation of HSIP. The Project Advisory Committee (PAC), chaired by the specified state committee, with participation of all key stakeholders, will assist in coordination and provide strategic recommendations during implementation of the Project.

BTS is the implementing organization for Component 1. The Project Implementation Unit (PIU) under the BTS and corresponding departments of BTS OJSC (hereinafter CDBTS) will be responsible for the daily implementation of all activities under Component 1, including preparation and implementation of protection tools. As the PIU and CDBTS are responsible for the preparation and implementation of the Environmental and Social Management Plan (ESMP), the PIU and CDBTS will ensure that the requirements of ESMP are appropriately included in the tender documentation, and bidders properly prepared plans for the implementation of the required mitigation measures and allocate a budget to implement these measures.

Despite the fact that PIU and CDBTS has technical expertise, experience in implementing projects financed by the World Bank, including knowledge of World Bank safeguards and reporting requirements, is limited. In order to ensure adequate potential for the implementation of the project, the PIU and CDBTS will involve a specialist on protective measures according to ToR acceptable to the WB. The specialist on protective measures will work on the environmental and social aspects of Component 1 of the project, namely, prepare and develop ESMP, including the compliance of the prepared documents with the requirements of national legislation and the World Bank, as well as monitor the implementation of ESMP requirements and participate in the Grievance redress mechanism.

PIU and CDBTS will use the Grievance redress mechanism and coordinate its activities with a view to properly redress the various grievances received. GRM of the project level will be comprehensive and include all issues related to the implementation of the project. The PIU and CDBTS will appoint a specialist who will bear responsibility for the work on GRM.

The grievance redress process is described in detail in Appendix 6.

Despite considerable efforts to manage the environmental and social risks associated with the activities of the HSIP, incidents can sometimes occur. An incident in this context is an accident or a negative event as a result of non-compliance with the requirements of national legislation and the requirements of the Bank’s safeguard policies or conditions arising from unforeseen events during implementation of the project. Examples of incidents include: deaths, serious accidents and injuries; social consequences caused by the influx of labor; sexual exploitation and abuse or other forms of gender-based violence; severe environmental pollution; loss of biodiversity or critical habitats; loss of physical cultural resources and loss of access to public resources. All such incidents should be reported immediately to PIU, and PIU should report this to the World Bank. Sample report is in Appendix 9.

**7.1 Monitoring of compliance and implementation of measures for mitigation of negative environmental and social impacts**

The PIU and CDBTS will be responsible for monitoring the compliance of all activities financed by the project with the WB social and environmental protection provisions applicable to HSIP, as well as the requirements of national legislation. Environmental monitoring of the works will be carried out in accordance with ESMP presented in this document. PIU and CDBTS will carry out this task using its internal forces, as well as with the help of a technical supervision consultant. Environmental and social monitoring involves regular monitoring of the implementation of all physical activities performed by contractors, impacts caused both on the Site and in the surrounding communities, and monitoring the implementation of the ESMP. To help in implementation of environmental and social monitoring, a form has been developed for environmental monitoring during supervision of construction works.

Compliance with ESMP is mandatory for the contractors and beneficiaries of the project. The contracting company should have special employees responsible for the implementation of ESMP during the construction phase. PIU and CDBTS will monitor the implementation of mitigation measures and best practices foreseen in these documents and, if deficiencies are identified, will notify the contractors / beneficiaries of the project and ask them to take corrective measures. In case of constant non-compliance and violation of the requirements of ESMP, PIU and CDBTS may apply a penalty for violation of the terms of the contract. ESMP will be included in the tender documentation for the works, which will oblige contractors to comply with the above mentioned documentation.

Monitoring the compliance with environmental and social safety measures, including the GRM, which implies regular supervision of the implementation of all physical activities performed by contractors, the impacts caused both on the work site and in the surrounding, will be carried out by the employed Technical Supervision Consultant.

GRM is a responsibility of BTS, but the Consultant for Technical Supervision can participate and support BTS in monitoring GRM work.

To assist environmental and social monitoring, Environmental and social monitoring plan (Appendix 3 to this ESMP) has been developed.

**7.2 Reporting and observance of protective regulations**

PIU and CDBTS are responsible for documenting the results of environmental and social monitoring by filling out and storing the forms for supervising construction / reconstruction works and preparing descriptive reports on the monitoring results on a regular basis. These reports will summarize the conclusions of the work on the fields, analyze the general problems, explain the nature of the corrective actions developed to solve the problems, and assess the status of such actions in relation to the recommendations given in the previous reporting period. This reporting will include not only environmental and social protection provisions, but also broader environmental and social issues (for example, gender issues, the grievance redress procedure, etc).

The PIU will submit quarterly reports to the World Bank on the status of compliance with the requirements of ESMP and national legislation. Form of report is provided in Appendix 10. Analytical information on compliance with protective measures will become part of the annual progress reports of implementation of the HSIP. Reports will be supplemented with current photos. All field monitoring checklists and descriptive reports will be kept in soft and / or hardcopy in PIU and will be submitted to the World Bank upon request.

World Bank staff will also be visiting the Site to monitor compliance with ESMP requirements.

**7.3 Public consultation and publication of documents**

The PIU and CDBTS will be responsible for the publication of a document on environmental and social issues developed for HSIP - ESMP.

Consultations with stakeholders of the project, in particular with local communities, on which the project will have a direct impact, is a prerequisite for the development of ESMP. Public comments and suggestions should be included in the above document before final development. The draft version of ESMP will be published in Russian and English on the BTS PIU website, in the World Bank infoshop, the announcement of the publication and the invitation to public consultations will also be posted in the media. Not earlier than two weeks after the publication of ESMP, the BTS PIU will conduct public consultations where HSIP and ESMP will be presented, as well as answer the participants' questions and listen to their suggestions. Questions and suggestions received during the consultations will be taken into account when preparing the final version of ESMP. The final version will be posted on the BTS PIU website and the World Bank infoshop. The consultation process will take place before commencement of any construction and/or reconstruction works. Information on public consultations held (copies of consultation announcements, participants, questions, answers, suggestions, minutes and photos of the event) will be attached to the developed and prepared ESMP document as Appendix 12.

Taking into account the situation with COVID-19 pandemic, the following decrees of the Government of the Kyrgyz Republic were issued:

- the Decree "On the introduction of a state of emergency on the territory of the city of Bishkek of the Kyrgyz Republic for the period from 08:00 on March 25, 2020 to 08:00 on April 15, 2020" was signed On March 24, 2020,.

- on April 14, 2020, a decree was signed on the extension of the state of emergency in certain cities and regions of the country (Bishkek and Osh, Nookat and Kara-Suu regions of Osh region, Jalal-Abad city and Suzak region of Jalal-Abad region) until April 30, 2020.

- On April 28, 2020, the Decree "On Amendments to Certain Decisions of the President of the Kyrgyz Republic" was signed. The decree extends the state of emergency in the cities of Bishkek, Osh, Jalal-Abad and At-Bashinsky district of Naryn region until May 10 inclusive.

On May 11, the state of emergency was removed, but the state of emergency was introduced.

According to the list of the Government, according to which economic entities begin a phased resumption of their work, economic activities of the following industries are allowed in quarantine mode from May 11:

Financial services, consumer services, trade and etc.

Due to the epidemiological situation, a number of COVID-19 non-proliferation measures must be followed during public hearings:

Distancing (1,5 – 2 m.);

Hand hygiene;

Masks.

***Appendix 1***

**General layout**

**НС4**

**СК-В-9**

**Isakeeva st. University**

**Ankara st. University**

**Ankara st. University**

**University**

**Dasmia**

**ма**

**30 m**

**ма**

**Dubrovskiy**

**ма**

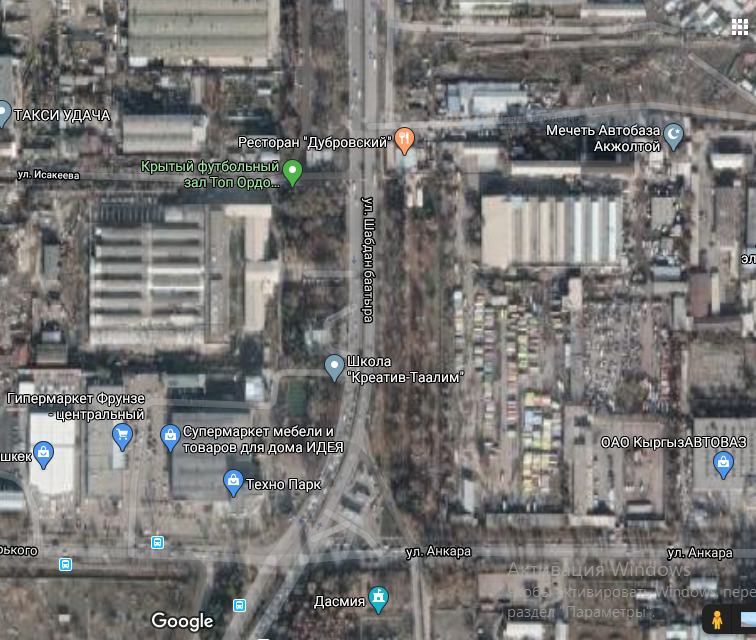
**Gas station**

**ма**

**10 m**

**ма**

**НС4**



***Appendix 2***

***Measures to mitigate the negative environmental and social impacts***

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Activity** | **Potential impact** | **Impact mitigation measures** | **Mitigation indicator** | **Costs for mitigation measures** | **Person responsible for mitigation measures** |
| **Construction/Installation stage** | | | | | |
| 1. Labor safety | Injuries and accidents on the Site during operation of cranes/excavators/bulldozers | - Provision of workers with special clothing and individual protective means;  - Strict observance of national regulations on safe operation of cranes/excavators/bulldozers; - Works, executed close to overhead lines under voltage, are to be performed under electrician control; - Installation and securing cranes and the crane motor in a stable position to prevent them from tipping over or being arbitrarily moved under their own gravity; - Inspection of operational reliability of machineries, availability of fence and protective facilities for mechanized control by civil works. Prohibition of work with failed machineries; - Instruction of workers, maintaining machineries: (a) instructions on machinery operation and maintenance of working place; (b) requirements for safety; (c) principles of signaling system; (d) maximum load and speed of machinery operation; (e) required measures, which the worker undertakes during accident or machinery failure;  - Strict observance of rules for safe operation of corresponding machinery;  - Permission to operate machines is granted only to specially trained personnel who have the necessary qualifications;  - Strict observance of following main requirements to operation of cranes and bulldozers: (a) all rotating parts of machines (gears, chains, moving parts, fans, flywheels, etc.) should be in case. Start of machinery with open case is prohibited; (b) inspection, adjustment, bolts tightening, lubrications and preventive maintenance of equipment during its operation is prohibited; and (c) it is not allowed to execute any other works and availability of people on the Site where these machineries are working. If large stones, stumps and other objects are found in the dug ground, the machine must be stopped and objects that can lead to an accident must be removed. | - Construction workers wear special clothing and adequate individual protective means during inspections; - Violations of equipment operation rules and work instructions and rules are not found out during inspection; - Machines are driven only by specially trained personnel who have the necessary qualifications. | Without additional costs: total responsibility of the contractor for execution of works | Construction company |
|  | Injures and accidents during welding works | - Strict observance of national regulations on execution of welding works;  - Provision of welders with protective equipment, rubber gloves, special boots and helmets; - Safety training for all workers prior to welding; - Strict observance of the rules for the use of protective equipment, which, at a minimum, includes: (a) respirator / welding protective masks; (b) protective clothing: the entire surface of the skin must be protected from ingress of molten metal and sparks. Protective clothes include: long-sleeved shirts; trousers that cover the upper parts of the shoe; gloves shoes or boots; (c) devices to protect the eyes from debris and from exposure to ultraviolet radiation; (d) helmets;  - Strict observance of fire safety requirements: preparation and use of fire extinguishers, as well as sand and water. | - Welders wear special clothing and adequate individual protective means during inspection; - During inspections, no violations of the welding regulations were recorded;  - Safety training records are available at the site; - there are basic fire fighting equipment on the site. | Without additional costs: total responsibility of the contractor for execution of works | Construction company |
| 2. Demolition and construction | Air pollution by dust and emission | - Demolition waste should be stored in a controlled area with water spray to reduce dust formation;  - During the operation of pneumatic equipment / demolition of walls, the occurrence of dust should be suppressed by the constant spraying of water and / or the installation of anti-dust barrier screens at the Site; Adjacent sections (sidewalks, roads) should be free of construction debris to minimize dust formation; - No open burning of construction/waste materials at the Site;  - Construction machinery and machines must be in good condition to prevent excess emissions; - Excessive concentration of non-working construction equipment at the Site is not allowed. | - Demolition waste not found in uncontrolled areas and not sprayed by water;  - During the operation of pneumatic equipment / demolition of walls, the occurrence of dust is suppressed by the constant spraying of water and / or the installation of anti-dust barrier screens at the Site;  - Adjacent sections (sidewalks, roads) are free of construction debris during inspections; - No open burning of construction/waste materials at the Site is found during inspections;  - Construction machinery and machines are in good condition without excess emissions during inspections; - No complaints from people living close to the Site. | Without additional costs: total responsibility of the contractor for execution of works | Construction company |
|  | Noise | - Observe the set hours of operation; - During execution of works, the covers of generators engines, air compressors and other power mechanical equipment should be closed, and the equipment should be placed as far as possible from residential areas; - Noise-killers on mobile machines and equipment are to be used; - Preventive maintenance of equipment to reduce the noise; - Turn off unnecessary or unused equipment. | - Construction machinery does not operate in non-working hours; - construction machinery is in a good technical condition during inspections; - Unnecessary or unused equipment is not found out during inspections;  - No complaints from people living close to the Site. | Without additional costs: total responsibility of the contractor for execution of works | Construction company |
| 3. Supply of construction materials | Deliveries of poor quality materials may endanger the safety of structures and human health. | Procurement of construction materials from registered suppliers. | Supplies of high quality construction materials with appropriate product certificates of origin. | None | Construction company |
| 4. Transportation of construction materials and garbage  Relocation of construction machinery | - Pollution due to unsatisfactory technical condition of vehicles and movement of uncovered trucks; - Disturbance of local residents due to noise and dust. | - Good technical condition of vehicles and machinery;  - Fencing and covering of cargos by special cover;  - Compliance with established working hours and transportation routes. | - Good technical condition of machines and machineries is recorded during inspections;  - No uncovered cargo was found during inspections; - Work that could disturb the population living close to the Site is not executed during non-working hours; - No complaints from people living close to the Site. | Without additional costs: total responsibility of the contractor for execution of works | Construction company |
| 5. Operation of construction machineries on the Site | - Environment pollution by emissions and leakages;  - Disturbance of local residents | - Good technical condition of construction machineries; - No excessive emissions; - No oil and lubricants leakages; - Observance of set working hours. | - Good technical condition of vehicles and machineries is recorded during inspections; - Heavy machinery and vehicles do not operate after working hours;  - No complaints from people living close to the Site. | Without additional costs: total responsibility of the contractor for execution of works | Construction company |
| 6. Construction machineries maintenance | Groundwater and soil pollution by oil products caused by equipment operation; - Fire damage. | - Washing machines and construction machineries outside the construction site or at the maximum distance from natural springs;  - Refueling or lubrication of construction machineries at pre-selected gas stations / centers | - Car wash water does not drain into water sources; - Fuel leakages are not detected at and near the construction site; - There is a basic firefighting equipment at the Site. | Without additional costs: total responsibility of the contractor for execution of works | Construction company |
| 7. Civil works | - Loss of soil-plant layer due to soil removal and particle pollution of surface water sources;  - Trees cutting. | - Separation of the plant soil layer and temporary storage for soil restoration;  - Temporary storage of soil in designated areas;  - Backfilling of the excavated soil, if necessary, and disposal of excess mass in the places indicated in the written permission;  - Limit tree cutting, where possible; - Municipal body is paid compensation for cut trees; - Determination of the necessary storage sites together with the environmental manager to prevent tree cutting;  - An inventory of large trees near the construction site should be made; it is required to put indicators, build a fence, protect the root system and prevent any damage to the trees. | - Excessive materials are disposed at agreed safe areas for long-term storage, that do not threaten the erosion of the soil and not blocking waterways;  - No residue of excess materials at the construction site after completion of work. | The Contractor should include in BOQ the cost of transportation of excess materials to the final disposal place. Compensation of cut trees should be included in the project costs. | Construction company  PIU |
| 8. Removal of aggregates | - Erosion of slopes and disturbance of the landscape;  - Erosion of coastal slopes, water pollution by heavy particles and disturbance of aquatic flora and fauna. | - Procurement of aggregates from existing suppliers, if possible;  - Obtaining a license for the production of aggregates and strict observance of the license;  - Terracing of pits, filling of used plots and planning and restoration works;  - The extraction of gravel out of the territory of water flows, the construction of watersheds between water flows and mining sites, prohibition of entry of vehicles and machinery into water flows. | - The construction contractor (in the case of mining) or an external supplier of aggregates must provide an appropriate mining license at the time of inspection;  - Mining works of a construction company (if performed) are technically feasible and comply with licensing conditions. | Total responsibility of the Contractor for execution of works | Construction company |
| 9. Household waste | - Soil and water pollution by household waste | - Placement of containers for garbage collection at the construction site and construction base (if any);  - Coordination with the Bishkek council regarding issues related to regular removal of household waste. | - Containers for garbage collection are available at the construction site of the construction base;  - Contamination of the construction site and the construction base with household waste has not been recorded. | No additional costs: total responsibility of Contractor for execution of works | Bishkek council  Construction company |
| 10. Non-hazardous construction waste | - Soil, surface water and groundwater pollution; - Incidents at the construction site due to scattered fragments of construction materials and debris;  - Deterioration of the aesthetic view of the construction site and the surrounding area. | - Temporary storage of construction waste in designated areas;  - Written agreement for the removal of excess material and construction waste was received from the Bishkek council; - Timely garbage removal to designated areas. | - Construction waste at the work site is stored in a designated place;  - There is no excess debris at the Site. | The Contractor in to include costs for garbage transportation/disposal in BOQ. | Bishkek council  Construction company |
| 11. Non-hazardous liquid waste | - Surface water and groundwater pollution; - Deterioration of sanitary conditions at the Site. | Installation and operation of toilets in accordance with sanitary standards at the construction site. | Toilets are located on the construction site and are in good sanitary condition. | No additional costs: total responsibility of the Contractor for execution of works | Construction company |
| 12. The formation of metal waste as a result of dismantling of obsolete equipment of heating stations and pipelines of heating networks | - Soil, surface water and groundwater pollution; - Incidents at the construction site due to scattered dismantled materials and equipment;  - Deterioration of the aesthetic view of the construction site and the surrounding area.. | - Temporary storage of dismantled equipment and pipes in specially designated areas;  -  - Hand over of the dismantled equipment to the operational district of BTS JSC | - Dismantled equipment and materials are collected and stored in designated areas; - Scrap metal is accepted for recycling. | To be included in project costs. | Construction company  PIU |
| 13. Formation of debris due to replacement of pipes containing asbestos (asbestos plaster), Ruberoid and mineral wool. | - Soil, surface water and groundwater pollution; - Health hazard to construction workers and others who may be at the construction site; - Health hazard for waste disposal workers and others who may be in a landfill. | - Removal of materials containing asbestos, ruberoid and mineral wool with minimal fragmentation to prevent dust formation.  - Moisturizing asbestos plaster upon removal to minimize dust formation.  - Temporary storage of disposed waste under a canopy in a specially designated place; - Timely waste removal to a specialized landfill by a closed truck;  - Filling waste with a layer of soil at the final disposal site - When working with materials containing asbestos, ruberoid and mineral wool, workers should wear protective equipment (goggles and respirators). | - Construction waste containing asbestos, ruberoid and mineral wool, is stored in specialized places at the site of work; - Construction waste containing asbestos, ruberoid and mineral wool is separated from another type of waste at the work site; - Excess construction debris containing asbestos, ruberoid and mineral wool is not stored at the Site, - During inspections, it was found that when working with materials containing asbestos, Ruberoid and mineral wool, workers wear protective means (glasses and respirators). | The Contractor is to include the cost of transportation/disposal of construction garbage, containing asbestos, ruberoid and mineral wool in BOQ. | Bishkek council  Construction company |
| 14. Leveling and reconstruction work at the construction site | Loss of aesthetic value of the landscape due to the replacement and reconstruction of the heating network. | - Liquidation of the construction base and temporary access roads to construction sites (if any) and leveling and restoration work;  - Final cleaning of the construction site and permanent access roads and landscaping. | - After demobilization of the contractor, there are no residues of the work camp at the site;  - Temporary access roads have been restored taking into account the landscape and created opportunities for the natural restoration of vegetation;  – Leveling and restoration work at the construction site has been completed, the territory has been landscaped. | Included in the project costs. | Construction company |
| 15. Traffic and pedestrian safety | Direct or indirect threat to the safety of traffic and pedestrians in connection with the implementation of construction activities | - The arrangement of industrial areas, their technical operation must comply with the requirements of construction codes and regulations, state standards, sanitary, fire-prevention, environmental and other applicable regulatory documents;  - Pointers, warning signs, barriers and detour;  - Internal roads of industrial territories must comply with building codes and are equipped with appropriate road signs regulating the order of movement of vehicles and construction machinaries in accordance with the Road Traffic Rules of the Kyrgyz Republic, approved by the Government of the Kyrgyz Republic dated March 3, 2009 No. 136;  - Traffic management system and employee training, especially regarding entrance to the site and heavy traffic near the city. Provision of safe passages for passengers in places of traffic obstruction.  - Adjusting hours of operation taking into account the local traffic, for example, avoiding serious transportation activity during peak hours;  - Active participation in the regulation of traffic by trained employees in clearly visible clothing on the construction site to ensure safe and convenient passage of the population.  - Industrial and work areas in settlements or on the territory of the organization should be fenced in order to avoid access by unauthorized persons. The design of protective barriers must meet the following requirements:  - the height of the fencing of industrial areas must be at least 1.6 m, and work areas - at least 1.2 m;  - fences adjacent to places of mass passage of people must have a height of at least 2m and equipped with a solid, protective visor;  - the visor must withstand the effect of the snow load, as well as the load from the fall of single small objects;  - fences should not have openings, except for gates and wickets, controlled during working hours and locked after it ends;  - the pits, holes, trenches and ditches, in places where people and vehicles move, must be fenced in accordance with the requirements of clause 6.2.2 (GOST 12.4.059-89) when carrying out earthworks on the territory of settlements or in industrial areas  - In places of transition through trenches, pits, ditches, walkways must be installed with a width of at least 1 m., fenced on both sides by handrails with a height of at least 1.1 m. with continuous sheathing at the bottom to a height of 0.15 m and with an additional guard rail at a height of 0.5 m from the deck;  - Construction sites, work areas and workplaces, driveways and approaches to them in the dark must be illuminated in accordance with the requirements of state standards. Indoor lighting must comply with construction codes.  Illumination should be uniform, without the glare of lighting devices on workers. Work in unlit areas is not allowed;  - Wells, pits and other recesses should be covered with covers, shields or fenced. In the dark, these fences must be illuminated with electric signal lamps with a voltage not exceeding 42 V. | - Proper Site security; - The site should be clearly visible and the public should be aware of all potential dangers; - Construction-related traffic regulation. | Included in the project costs. | Construction company |
| 16. All types of construction works | Public complaints | - Develop and implement, immediately after the start of the Project, a grievance redress mechanism to receive feedback and complaints at the local level ; - Conduct information campaigns through public meetings and distribution of documents related to planned activities, as well as planned measures to avoid and mitigate the potential impacts of construction work, including safety measures in the vicinity to the construction site, interruptions in heat supply, traffic regulation, employment opportunities, grievance redress mechanisms and other measures. | - Grievance redress mechanism is in place;  - Information campaigns were conducted through public meetings and the distribution of documents. | Included in the project costs. | PIU and CDBTS |
|  | Gender Impact | - Strengthening the capacity of various administrations related to gender issues (i.e. receiving complaints from women); - Promote temporary employment to carry out project works taking into account gender aspects as much as possible. | - Gender issues are considered in duly manner; - Temporary employment is promoted taking into account gender aspects. | Included in the project costs. | PIU |
|  | Labor inflow | - Employment of workers residing on the work site or those who can get to the construction site every day. | - Local workers | No additional costs: total responsibility of the Contractor for execution of works | BTS |
| **Operation stage** | | | | | |
| 1. Readiness to emergency situations in case of failure of the main network | - Interruption of heat and hot water supply is a concern of the consumers; - Danger to public and personnel health due to hot water leakage. | - Regular preventive maintenance of the main network;  - Emergency Readiness and liquidation Plan; - Equipment and materials, necessary for application of Emergency readiness plan are available at the sites; - Personnel is trained on measures for liquidation of emergency situations. | - Uninterruptable operation of main network and reduction of water leakages; - Security along the heating main network. | Will be included in the budget for operation and maintenance | BTS |
| 2. Readiness to emergency situations in case of failure of the main network | - Interruption of heat and hot water supply is a concern of the consumers; - Danger to public and personnel health due to hot water leakage. | Regular preventive maintenance of the main network;  - Emergency Readiness and liquidation Plan; - Equipment and materials, necessary for application of Emergency readiness plan are available at the sites; - Personnel is trained on measures for liquidation of emergency situations. | - Uninterruptable operation of main network and reduction of water leakages; - Security along the heating main network. | Will be included in the budget for operation and maintenance | BTS |

***Appendix 3***

***Environment and social monitoring plan***

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Measure / Action** | **Parameter to be monitored?** | **Where will the parameter be monitored?** | **How will the parameter be monitored?** | **(determine frequency / or on an ongoing basis)** | **Why is the parameter monitored?** | **Who is responsible for monitoring?** |
| **During preparation for construction** | | | | | | |
| 1. General conditions | - All permits required by law; parameters are prescribed in the construction permit  – all special construction conditions imposed by various authorities | Design documentation; Permission for construction  Conclusion of the State expertise of the Kyrgyz Republic under Gosstroy of the Kyrgyz Republic and order on the right to perform civil works of the Capital Construction administration of the Bishkek council | Part of regular inspections, carried out by PIU and CDBTS | During construction/installation and till issue of Во время строительства /монтажа и до выдачи разрешения на эксплуатацию | Regular inspections are prescribed in the construction permit to ensure compliance with environmental requirements in accordance with laws and regulations of the Kyrgyz Republic and ESMP | PIU, CDBTS, Technical Supervision Consultant |
| 2. Provision of construction materials | Procurement construction materials from registered suppliers | In the storage of supplier company | Check of labels on materials and(or) certificates, if any | During signing of the contract for supply | Provide good quality construction materials and their safety for human health | PIU, CDBTS, Technical Supervision Consultant |
| 3. Transportation of construction materials and garbage  Reallocation of construction machineries | - Technical conditions of vehicles and machineries; - Cargo protection in the vehicle with special upholstery;  - Observance of set timing and transportation routes | Construction site; - Construction materials and garbage transportation routes | Checking the quality of roads adjacent to heat stations and the heat network in the direction of traffic according to the route | Spot checks during business hours | - Limit soil and air pollution by exhaust emissions;  - Limit the disturbance of the local population caused by noise and vibration;  - Minimize traffic stops | PIU, CDBTS, Technical Supervision Consultant,Main Directorate of Patrol Police of the Ministry of Internal Affairs of the Kyrgyz Republic |
| 4. Dust | Air ventilation on the Site | Construction site and access road | Visual inspection | On a recurring basis | Reduce risks for workers and people living near the construction site | PIU, CDBTS, Technical Supervision Consultant |
| 5. Noise | - Compliance with the schedule of working hours; - The technical condition of vehicles and equipment;  - Noise levels (in case of complaints) | Construction site | - Visual inspection;  - Measurement of noise levels by devices (in case of complaints) | - On a recurring basis - During 2 weeks after complaint | Reduce negative impact on workers and population, living near construction site | PIU, CDBTS, Technical Supervision Consultant |
| 6. Repair and care about construction machineries | - Washing machines and construction equipment outside the construction site or at the maximum distance from natural water flows;  - Refueling or lubrication of construction equipment at pre-approved gas stations / service centers | Construction sites | Inspection of works | Spot checks during business hours | - Prevent pollution of water and soil with oil products as a result of equipment operation;  - Locate a fire in a timely manner and reduce potential damage | PIU, CDBTS, Technical Supervision Consultant |
| 7. Civil works | - Removing the soil and plant layer and temporary storage for land reclamation;    - Temporary storage of dug soil in special places;  - Backfilling of dug up soil, as necessary, and transfer of excess residue to places approved in writing;  - Inventory of large trees in the vicinity of construction work, marking and fencing of large trees, protection of their root systems;  - Limit tree pruning where possible | Construction site | Inspection of works | During civil works | Limit the loss of vegetation as a result of removal of the plant layer and minimization of particle pollution of surface water sources;  - Limit contaminated soil to surface and groundwater | PIU, CDBTS, Technical Supervision Consultant |
| 8. Removal of aggregates | - Procurement of aggregates from existing suppliers, if possible;  - Obtaining a license for the production of aggregates and strict compliance with the license;  - Terracing of pits, backfilling of used plots and leveling and restoration works;  - The extraction of gravel out of the territory of water sources, arrangement of water lines between water sources and mining sites, the prohibition of vehicles and cars entering the water sources. | Aggregate pits | Inspection of documents Inspection of works | During civil works and recovery of pits | - Limit slope erosion and landscape damage;  - To limit the erosion of coastal slopes, the pollution of water flows by suspended particles and the negative impact on the aquatic flora and fauna | PIU, CDBTS, Technical Supervision Consultant, |
| 9. Household waste | - Placement of containers for garbage collection at the construction site and construction base (if any);  - A contract with the Bishkek council for regular removal of household waste | Construction site and construction base (if any) | Visual observation | Whole construction period | Prevent soil and water pollution by household waste | PIU, CDBTS, Technical Supervision Consultant, Bishkek council |
| 10. Non-hazardous construction waste | - Temporary storage of construction waste in designated areas;  - Timely garbage removal to officially authorized places | Construction site; Landfill | Inspection of works | Periodically during construction and after its completion | - To prevent pollution of soil, surface and groundwater;  - Prevent incidents at the ITP construction site due to scattered fragments of construction materials and debris;  - Preserve the aesthetic view of the site and surrounding area | PIU, CDBTS, Technical Supervision Consultant, Bishkek council |
| 11. Liquid waste formation | - Arrangement and maintenance of toilets in accordance with sanitary standards at the construction site | Construction site | Inspection of works | Whole construction period | Reduce surface and groundwater pollution | Construction contractor |
| 12. The formation of metal waste as a result of the dismantling of obsolete equipment of heating stations and pipelines of heating networks | - Temporary storage of dismantled equipment and pipes in specially designated areas;  - Transportation of dismantled equipment and pipes to warehouse of the operational district of BTS OJSC | Heat network and adjacent territory | Inspection of works | Periodically during construction and after its completion | - To prevent pollution of soil, surface and groundwater;  - Prevent accidents on the construction site due to scattered written-off materials and equipment;  - Preserve the aesthetic view of substations and the territory attached to the heating main | PIU, CDBTS, Technical Supervision Consultant |
| 13. formation of debris from replacing pipes containing asbestos (asbestos plaster), Ruberoid and mineral wool | - The removal of materials containing asbestos, ruberoid and mineral wool with minimal fragmentation to prevent dust formation;  - Moisturize asbestos plaster upon removal to minimize dust formation; - Temporary storage of disposed waste under a canopy in a specially designated place; - Timely removal of garbage containing asbestos, Ruberoid and mineral wool to a specialized landfill in a closed truck;  - Backfilling of asbestos, ruberoid and mineral wool containing by layer of soil at the final disposal site;  - The use of special clothing and individual protective means (PPE) (goggles and respirators) by workers and employees responsible for work with garbage containing asbestos, ruberoid and mineral wool at each stage; | Construction site; Landfill | Inspection of works | Periodically during construction and after its completion | Prevention of harm to the health of construction workers and other people who may get on the construction site; - Prevention of harm to the health of workers disposing of trash and other people who might end up in the landfill | PIU, CDBTS, Technical Supervision Consultant, Bishkek council |
| 14. Leveling and restoration work at the construction site | - Liquidation of the construction base and temporary access roads to construction sites (if any) and leveling and restoration work;  - Final cleaning of the construction site and permanent access roads and landscaping. | Construction site, access roads | Inspection of works | Last stage of the construction | To reduce the loss of aesthetic value of the landscape as a result of the rerouting and reconstruction of the heating line | PIU, CDBTS, Technical Supervision Consultant, Bishkek council |
| 15. Health and safety of workers | - Construction workers using special clothing and individual protective means;  - Strict observance of the rules for the operation of construction equipment and the use of individual protective means;  - Strict adherence to laws and regulations of the Kyrgyz Republic governing construction work;    - Availability of basic firefighting equipment;  - The availability of records on attendance of training and the receipt of safety instructions | Construction site | Visual observance and analysis of submitted documentation | Whole period of works | Reduce probability of injures and accidents for builders | PIU, CDBTS, Technical Supervision Consultant |
| 16. Safety of population | The local population should be properly informed about the upcoming design work.  Contractor must:  - organize parking of equipment at a safe distance from social facilities;  - fence the dug trenches with warning tapes;  - install road signs, safety signs;  - provide residents with a sufficient number of safe crossing bridges. | Construction site and surrounding area | Visual inspection and analysis of the provided documentation | Whole period of works | In order to avoid injures and accidents | PIU, CDBTS, Technical supervision Consultant,  Representative of the Contractor is responsible for the implementation of measures to reduce the negative impact on the environment |
| 17. All types of construction works | - Using the mechanism for handling complaints from Project Affected Persons in order to receive feedback and facts of discontent at the local level;  - Informing the local population about planned and ongoing actions and activities undertaken to correct the negative impact;  - Clear administration of gender issues (for example, receiving complaints from women);  - Temporary job vacancies related to design work and taking into gender issues | Along the pipeline route and in adjacent territories | Study of complaint registration and feedback for complaints solution book;  - Interview with local people | During all types of physical works | - Support cooperation with project affected people and reduce their dissatisfaction with temporary inconveniencies;  - Reduce gender inequality | PIU, CDBTS, Technical Supervision Consultant |
| **Operation stage** | | | | | | |
| 1. Health and safety of workers | - Workers use special clothing and individual protective means;  - Strict observance of the rules for the operation of IHS equipment and maintenance of heating network, as well as the use of individual protective means;  - Availability of training attendance records | On pipelines | Periodical inspections | Periodically, in accordance with the requirements of state regulations and procedures | Prevent accidents and damage to the health of maintenance staff | BTS |
| 2. Safety of the population | Local population is informed about project works. | On pipelines | Periodical inspections | Periodical, according to instructions of the state norms and procedures | In order to avoid injuries and accidents | BTS |
| 3. Operation and maintenance of IHS | Regular maintenance of heating stations is conducted | HIS site | Periodical inspections | Whole operation period of the facility | - Reduce the risk for the people living near heat stations;  - Prevent failures of heat stations operation | BTS  State inspection of environmental and technical security |
| 4. Emergency readiness for accidents in the heating network | - Regular preventive maintenance of the heating network;  - - Availability of an Emergency readiness and liquidation Plan;  - Availability of equipment and materials necessary for the implementation of the Emergency readiness and liquidation Plan at the Site  - Workers trained in emergency situation liquidation | Heating networks, BTS office | - Study of readiness and liquidation plan, visual inspection of the Site | Whole lifetime of heating network operation | - To prevent failures in the operation of the heating network;  - To protect the health and safety of workers and people living near heating network. | BTS  State inspection of environment and technical security |

***Appendix 4***

**ENVIRONMENTAL REGULATIONS FOR THE CONCLUSION OF CONTRACTS FOR EXECUTION OF CONSTRUCTION WORKS**

During execution of works, the contractor must apply environmental and technical standards and procedures for the implementation of construction works, providing for the protection of the environment on field and / or construction sites:

* Taking measures and precautions to avoid negative impact or impact on the environment, causing loss or damage as a result of works execution. This will be achieved by preventing or suppressing (where possible) harmful effects, instead of necessity to eliminate or mitigate their consequences.
* Compliance with all laws and legal standards on environmental protection of the Kyrgyz Republic.
* Storage and disposal of construction waste in accordance with laws and regulations in force
* Minimize dust emissions to avoid or to minimize negative air quality effects.
* Provision of pedestrian flows and traffic, together with access to neighboring places and public facilities.
* Prevention or minimization of vehicles and equipment vibration and noise.
* Minimization of damage and restoration of vegetation in areas damaged as a result of work.
* Protection of surface and groundwater against pollution, in accordance with sanitary norms and rules. Provision of proper collection and distribution of water resources.
* Protection of soil against pollution by waste oils, gasoline and diesel fuel.
* Installation of garbage cans at each construction site.
* Fencing construction sites from unauthorized access by unauthorized persons, especially children.

***Appendix 5***

**Other legislative and secondary legislation regulations**

The Law of the Kyrgyz Republic “On Water” 12 regulates relations in the field of use and protection of water resources (water), preventing the environmentally harmful effects of economic and other activities on water resources and water facilities and improving their condition, strengthening the rule of law in the field of water relations. The law regulates the quantity and quality of water discharged into nature, prohibits the discharge of industrial, domestic and other waste and wastewater into water sources.

Separate legislative acts and regulatory measures applicable to restoration work in heating stations are as follows:

* + - 1. SNIP # 4-01-01 "Design of heating networks";
      2. SP 41-105-2002 “Design and construction of heating networks without channel laying of steel pipes with industrial thermal insulation from polyurethane foam in a polyethylene sheath”;
      3. GOST (Soviet standard) 30732-2006 "Steel pipes and fittings with thermal insulation from polyurethane foam with a protective sheath"

International conventions:

The Kyrgyz Republic has ratified the following international conventions in the field of environmental protection:

1. Aarhus Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, 1998;
2. Basel Convention on the Control of Transboundary Transportation of Hazardous Wastes and their Disposal, 1996;
3. Convention on Biological Diversity, 1996;
4. Convention on Long-Range Transboundary Air Pollution, 2000;
5. United Nations Framework Convention on Climate Change, 2000;
6. Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, 2000;
7. Vienna Convention for the Protection of the Ozone Layer, 2000;
8. Montreal Ozone Depleting Substances Protocol, 2000;
9. Stockholm Convention on Persistent Organic Pollutants, 2002;
10. Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention), 2001;
11. Ramsar Convention on Wetlands, 2003;
12. United Nations Economic Commission for Europe Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, year of accession: 2001;
13. United Nations Convention to Combat Desertification in those countries experiencing serious drought and / or desertification, particularly in Africa, Accession Year: 1999;
14. Convention on International Trade of endangered species of wild fauna and flora, Accession Year: 2006;
15. Cartagena Protocol on Biosafety, Accession Year: 2005;
16. Convention for the Protection of the World Cultural and Natural Heritage, Accession Year: 1995

***Appendix 6***

**Grievance redress mechanism**

1. **Introduction**

In accordance with the Law of the Kyrgyz Republic “On the Procedure for revision of citizens' Appeals” dated May 4, 2007 No. 67, in accordance with requirements of project implementation procedures financed by the World Bank (Strategic Framework for Involving the Population in the Activities of the World Bank Group (Strategic Framework for Mainstreaming Citizen Engagement in World Bank Group Operations), approved in 2014, as well as in accordance with the provisions of the anti-corruption policy of the World Bank Group and the internal regulations of BTS OJSC, a Grievance Redress Mechanism (GRM) has been developed for Heat Supply Improvement Project (HSIP).

The objective of the GRM is to enhance reporting of beneficiaries and stakeholders and to provide various feedback opportunities (appeals / reviews / complaints / suggestions) about the activities of the Project. GRM is a mechanism to identify and solve problems affecting the project, including: complaints related to measures to protect the environment and social issues, misuse of funds, abuse of authorities. By increasing transparency and reporting, the GRM aims to reduce the risk of inadvertent exposure to citizens / beneficiaries and serves as an important feedback and training mechanism that will improve the impact of the project.

GRM developed as part of the HSIP is accessible to all, including ethnic, religious, gender and other special groups. The mechanism includes not only the receipt and registration of complaints and appeals, but also their resolution at appropriate levels. GRM is supported by an information campaign and training. When considering complaints and appeals, it is necessary to follow the procedures below.

1. **General regulations**

HSIP includes a Grievance redress mechanism, which will be available to project stakeholders to submit questions, suggestions and complaints or provide any form of feedback on all project activities financed by the project.

Beneficiaries of the project, on which the project has had an impact (directly or indirectly, positively or negatively), as well as other citizens can use GRM to submit complaints and appeals.

GRM for HSIP is managed by PIU and CDBTS under “Bishkekteploset” OJSC.

Complaints and appeals can be expressed at any time during the implementation of the project.

Fees for submission of complaints, appeals, comments or suggestions will not be charged.

**III. Procedures**

1. **Channels for grievances submission**

Within the framework of the project, the following channels will be created through which citizens / beneficiaries can submit complaints and appeals related to activities financed by the project:

1. Appeals of citizens can be transmitted during meetings of citizens with the management of “BTS” OJSC according to the meetings schedule.
2. Oral or written complaints about project staff (directly or through project meetings). If project stakeholders give verbal feedback / complaint, project staff will submit a complaint on their behalf and will be processed through the same channels.
3. Mailboxes located in “Bishkekteploset” OJSC at the address: Zhukeyeva-Pudovkina st. 2/1, Bishkek.
4. Letters are to be sent to the address: PIU / WB, Zhukeyeva-Pudovkina st., 2/1, Bishkek.
5. E-mail address: [piu@teploseti.kg](mailto:piu@teploseti.kg)
6. Phone No.: +996312 561101, +996312 568822
7. Web-site of “BTS” PIU: [www.teploseti.kg](http://www.teploseti.kg)

The project should provide flexibility in the available channels, make sure that for the submission of the oral appeal, the person addressed has various contacts, and grievances addressed to the wrong person or organization will be redirected to the person responsible for the GRM.

1. **Confidentiality and conflict of interest**

Grievances and appeals may be submitted anonymously, and confidentiality will be ensured in all cases, including when the person submitting the grievance is known. For this reason, several channels have been created for submission of grievances and for resolving stakeholder conflicts.

1. **Collection / receipt of grievances and appeals**

The person receiving the grievance (project assistant) will fill in a grievance and appeal form (Appendix 1) or provide the form that will be available to the applicant to fill in directly, and to immediately send it to the manager of the GRM (Monitoring and Assessment Specialist). Grievances for the HSIP will be collected and executed by the manager of the GRM every month.

1. **Sorting**

After the collection of grievances letters, the manager of the GRM will be responsible for sorting the feedback. The following are examples that can be used to sort grievances and appeals:

* Grievances related to violations of policies, guidelines and procedures;
* Grievances related to violation of contracts;
* Grievances related to abuse of means / unavailability of transparency or other financial management problems;
* Grievances related to abuse of power / interference by the project or government officials;
* Grievances related to the work of BTS staff;
* Reports on force-majeure conditions;
* Suggestions;
* Appreciation.

1. **Record / registration**

After the grievance / appeal have been sorted out, the project assistant will register the grievance information in the tracking system. This system can be manual (typed) or connected to the project data base. GRM files should be stored in safe mode.

After the grievance has been registered and sorted, the project assistant sends it to the head of the PIU. The latter defines the following:

* To send to GRM manager, responsible for the grievance review;
* Deadlines, when the grievance is to be resolved;
* Agreed action plan (for example, review and response, not requiring review and etc.).

Review process is defined based on nature and seriousness of the grievance:

* regarding grievances related to protection measures, regardless of the complexity of the case, the specialist in social protection measures of the PIU will participate in the review;
* grievances on local level will be reviewed by GRM within 10 days after registration;
* in the case of complex grievances, the review will be carried out by the Grievance Review Group for HSIP within 20 days with mandatory notification of the applicant;

In determining who will be responsible for review, the GRM manager will ensure that there is no conflict of interest, i.e. all persons involved in the review process should not have any material, personal or professional interest and personal or professional connection with the applicant / applicants or witness / witnesses.

As soon as the review process is organized, the project assistant enters these data into the PIU database or in the journal for registering grievances. The number, type of proposals and questions should also be registered and recorded for further analysis in order to improve interaction with the project.

1. **Notification of the applicant**

If the applicant is known, the GRM manager will inform him / her of the timelines and taken actions by phone, email or mail within two weeks after receiving the complaint / appeal. If the applicant’s address is available, information is sent to the applicant in writing, indicating the tracking number and the timeframe by which he / she will receive information from the PIU.

1. **Review**

The person responsible for grievance / appeal review will collect the facts to get a clear idea of the circumstances related to the grievance. Verification usually includes visiting the location, checking documents, meeting with the applicant (if the applicant is known and his wish to participate) and meeting with those who can solve the problem (including official and informal leaders of communities, villages or other leaders).

In the working process, the PIU and CDBTS (GRM manager) responds to application, grievances, and letters regarding project activities. If the issue requires a collegial review, then within the framework of PIU and CDBTS, a group will be formed consisting of a project assistant, a manager for GRM and the Coordinator.

The results of the verification and the proposed response to the applicant will be submitted for consideration to the PIU. The response to the applicant prepared by the GRM manager will be sent to the applicant and registered in the PIU database / journal for registering grievances.

For statements that are controversial and to which the PIU is not able to answer and decide on its own, an HSIP Grievance review group will be formed. The group will consist of representatives of the PIU, a representative of “BTS” OJSC and relevant specialists (as agreed). The group must include a woman / women. The project coordinator will lead the Group and coordinate all work, including preparation of a conclusion and response, which will be signed by all members of the group.

If the management and employees of the PIU and “BTS” OJSC do not have the authority to make decisions on the problems / applications raised, they apply to the relevant authorities, informing the applicant accordingly, explaining where and to whom to apply.

If the agreed actions cannot be carried out and / or if the grievance cannot be satisfactorily resolved within 30 days, the following steps will be taken:

1. **Reply to grievance and appeal**

The decision made on the grievance or appeal is sent through the same channels that were documented during the registration of the grievance / appeal. The applicant will also be informed in writing or verbally that he / she may appeal the decision taken at the initial stage.

The GRM manager will ask the applicant for feedback on whether the response or action is satisfactory and it will be recorded together with detailed information about the grievance and the response received.

1. **The possibility of appeal**

If the applicant is satisfied with the answer, the discussions will be held in a group or individually to further clarifications of the set positions. Top management will participate in these meetings and a final decision will be made on the action (s).

The applicant is not discouraged to submit an appeal outside the project / GRM PIU if he / she is not satisfied with the proposed response.

***Appendix 7***

**Grievances / Inquiries / Suggestions Form**

|  |
| --- |
| *Instruction: This form is filled in by the employees receiving the request or grievance, and is sent to the manager of the CRSM. Please, attach appropriate supporting documentation / letters if necessary.* |
| Grievance receipt date:  Name of the specialist filling the form in: |
| Grievance received on the level (please, tick off by √):  □ National level □ Oblast □ City □ Village |
| Method for submission a grievance or inquiry (tick off by √):  □ Personally □ Phone □ E-mail □ Web-site □ Box for grievances and suggestions  □ Meeting □ Public consultations  □ Other \_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Name of the Applicant: (information is not obligatory and always considered as confidential)  Sex: (tick off by √): □ Male □ Female |
| Contact information of the Applicant (address, telephone, e-mail and etc.): (information is not obligatory and always considered as confidential) |
| Short summary of the grievance or inquiry: (Please, provide as much information and facts as possible.) |
| You are requested to tick off required category (Please, tick off by √):  □Grievances related to policy, guidelines and procedures violation;  □Grievances related to contracts violation;  □Grievances related to means abuse / unavailability of transparency and other financial management problems;  □Grievances related to power abuse / interference by project or governmental officials;  □Grievances related to the BTS staff work;  □Reports on force-majeure conditions;  □Suggestions;  □Appreciation. |
| Who should apply and track the grievance: |
| Progress in grievance redress (for example, response is provided, under progress, solved): |
| Other comments: |

***Appendix 8***

**Applicant notification Form**

|  |
| --- |
| *Instruction: This form must be filled in by the GRM Manager and sent to the applicant* |
| Grievance receipt date:  Grievance No.: |
| Grievance received on the level (Please, tick off by √):  □ National level □ Oblast □ City □ Village |
| Method for submission a grievance or inquiry (tick off by √):  □ Personal □ Telephone □ E-mail □ Web-site □ Box for grievance and suggestions  □ Meeting □ Public consultations  □ Other \_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Name of the Applicant: (information is not mandatory and always considered as confidential)  Sex: (please, tick off by √): □ Male □ Female |
| Contact information of the Applicant (address, telephone, e-mail and etc.): (information is not obligatory and always considered as confidential) |
| Deadline for response (30 days after date of grievance/appeal receipt): |

***Appendix 9***

**Report on incidents for \_\_ quarter 2020.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Date** | **Subject of incident**  **(what happened)** | **Health damage**  **(no, hospitalization, death) or the environment (loss of vegetation, severe pollution, etc.)** | **Informed Parties, No. of submitted protocol**  **(depending on the incident and etc.), No. of case and date** | **Information is submitted** | **Unsolved issues** |
| **1** |  |  |  |  |  |  |
| **2** |  |  |  |  |  |  |
| **3** |  |  |  |  |  |  |

***Appendix 10***

**Report on compliance with the requirements for the protection of the natural and social environment for the \_\_ quarter of 2020**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **№** | **Name of facility/site** | **Contractor** | **Contract price (US dollars)** | **Environmental violations identified by environmental authorities, labor protection agencies, etc..**  **Measures taken**  **(with dates)** | **Violations of labor protection and safety measures identified by labor protection agencies. Accidents**  **Measures taken**  **(with dates)** | **Availability of appeals (grievances)**  **Measures taken**  **(with dates)** | **BTS remarks/ Client engineer**  **Measures taken**  **(with dates)** | **Expected hand over of facility/site** | **Other information (cutting / planting of trees, recultivation, problems with waste management, etc.)** |
| ***1*** |  |  |  |  |  |  |  |  |  |
| ***2*** |  |  |  |  |  |  |  |  |  |
| ***3*** |  |  |  |  |  |  |  |  |  |

***Appendix 11***

**Conclusion of the State Ecological Expertise**



***Appendix 12***

**MoM of Public consultations**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Organization name | Region | | City | District | | Date |
| BTS | Chuy | | Bishkek |  | | 19.11.2020 |
| Place: | Public consultations were carried out remotely in on-line mode via Whats App. | | | | | | |
| Participants of the consultations: | List of participants is attached. | | | | | | |
| Agenda: | 1. Familiarization with ESMP. 2. Comments and proposals on ESMP. 3. Participation of interested parties in decision making process related to the social and environmental aspects of the project activity. 4. Grievance redress mechanism related to the project activity. | | | | | | |
| Questions, comments, proposals and conclusions: | In connection with the limitations, imposed due to COVID-19 pandemic, the Safeguard Consultant Mr. Zhumaliev K, has familiarized the participants with the rules of the public consultations in on-line mode via Whats App.  The Consultant provided information for public consultations participants about the Heat Supply Improvement Project, prepared ESMP 1, 2 and 4 which can be found at <http://teploseti.kg/content/articles_view/1389>, and also introduced the participants to the Grievance Redress Mechanism (GRM).  Further, the participants of the public consultations actively participated in the discussion of the technical aspects of the Project and the content of the ESMP.  The following questions were asked:  **Question 1.** *:* Our facility is located on site No. 4 ("Gazprom" gas station), I would like to clarify when exactly the construction work near the gas station will be started and to what extent will the restoration work be carried out to give the original appearance of the territory on which the construction will take place?  **Answer:***.* The planned construction commencement date is April 2022, the planned completion date of construction is October 2022. The construction site will be restored to its original state.  **Question 2.** *:* Our site is located at the intersection of the 1st and 4th project sites. Similarly, would you like to clarify the commencement date and completion date of construction, in order to ensure the continuous technical process of our enterprise (Dasmiya LLC)?  **Answer:** *:*Your section is No. 4. The planned construction commencement date is April 2022, completion date of construction is October 2022.  **Question 3.** *: Sorry, please, we are not talking about general dates, but about detailed dates. Is there a work schedule?*  **Answer:** *:* The work schedule will be submitted by the successful bidder after signing the contract.  **Question 4.** *:* Section 4 will be developed in full simultaneously or in parts?  **Answer:** *:* This issue will be considered with the successful Bidder. The Bidder shall offer his option taking into account his capabilities.  **Question 5.** *:* The section from L. Tolstoy st. to the turn to the International University of Kyrgyzstan, reconstruction is planned in the winter. Will there be no heating at this moment?  **Answer:** *:* Reconstruction of the Section No. 3 in winter period will be carried out by parts. Heating of the International University of Kyrgyzstan and other customers will be kept, the corresponding heating network switching is foreseen.  **Question 6.**  *:* The thing is that almost 250 m of the pipeline passes through the territory of the ethno-tea-khan "Charpai" overground.. Can this section be reconstructed not in summer period?  **Answer:** *:* We would like to clarify that the heating overground network, passing through the territory of Dasmiya LLC, is not in the scope of the reconstruction project.  **Question 7.** *:* How about entering the plant (Bishkek Nan OJSC) during the construction period?  **Answer:**The construction works will be carried out in such a way as to ensure access in accordance with the World Bank’s procedures for social safety measures.  **Answer:** *:* When carrying out construction work, measures will be taken to ensure entry and exit, i.e. temporary bridges will be installed for the passage.  **Question 8.** *:* Large losses are charged to us through our external networks - 30%. In the light of the upcoming reconstruction, is it possible to reconstruct this section with its subsequent transfer to the balance of Bishkekteploset?  **Answer:** *:* Within the project, only the main heating network will be reconstructed. Networks belonging to customers are not included in the Project.  **Answer:** : The reconstruction of the Vostok main network will be financed by the World Bank loan, so all design and estimate documents are coordinated with the donor. Accordingly, your external networks cannot be reconstructed within the framework of this Project.  **Question 9.** *:* There is still a year before the commencement of work on our section No. 3, can you make additions to the project and make a favor to a customer? In other words, what is the benefit for our organization from the upcoming reconstruction? After all, when the necessary machinery, equipment, specialists, workers, etc. will be concentrated in this area to reconstruct an additional 200 m. of our network, which is in a worn-out condition according to the results of your survey, is obviously advisable.  Works on section No. 3 will cover the entire next heating season. Are there any planned interruptions in heat supply during this period and what decision was made to restore the green landscape upon completion of the reconstruction of the mainline?  **Answer:** *:*There was a question above regarding interruptions during reconstruction.A comment was provided where it was noted that there will not be any interruptions of the heating and the corresponding pipelines switching are foreseen. Regarding green landscape, I would like to note that all plantings will be restored.  **Answer:** *:* After completion of the construction works all plantings will be fully restored. Also, according to the procedures of the World Bank, all measures will be taken to minimize environmental and social impacts during the implementation of the Project. All these measures are described in detail in ESMP 1, 3 and 4.  **Question 10.** : What is the advantage for OJSC "MediaForum" from the upcoming reconstruction, apparently we are offered only inconveniences during the reconstruction?  **Answer:** The issue of reconstruction and renovation of engineering networks of our city cannot be considered only from the point of view of the benefits or losses of a single company.  This heating mainline supplies heat to thousands of consumers in our city, more than 450 apartment buildings in which more than 70,000 residents live, 29 social facilities (schools, kindergartens, hospitals, etc.). This mainline was built in 1969 and is physically worn out. Thanks to a loan from the World Bank, Bishkekteploset OJSC will renew the mainline, improve the reliability and quality of heat supply for almost a third of the residents of our capital.  The funds allocated by the World Bank are not gratuitous, Bishkekteploset OJSC will pay the loan back with interest, so we cannot spend this money on networks owned by others. All inconveniences for you and your company will be minimized as much as possible, the improvement of your territory will be restored by 100%.  **Answer:** *:* All efforts will be made to minimize inconvenience to you and other involved objects and businesses.  **Question 11.** *:* Thank you for your answers, but I really would like to reconstruct this small section of our network within the scope of the upcoming big work, because, according to the results of your research, the letter No. 102 / 3062-19 dated 12/30/2019 is in a worn out condition.  **Answer:** *:* Unfortunately, it is not possible.  *Dear participants of the Public consultations, we understand your worries regarding possible loss of the income during implementation of the Project. We would like to note that the Project will take all measures in order to avoid the loss of income and etc. Besides, if there are any claims, the GRM can be used.* | | | | | | |
| Conclusions/outcome: | Developed ESMP 1, 3 and 4 are acceptable to be applied within HSIP. | | | | | | |
| Meeting secretary: | Name | | Position | | | Подпись | |
| Zhumaliev K. | | Safeguard Consultant | | |  | |

Meeting chairman: **Raimbekov U.K.**

Position: **Dty. General Director**

Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Registration list of the participants of the public consultations**

**Place:** remotely, online mode via Whats App

**Date:** November 9, 2020.

| **№** | **Name** | **Position** | **Phone no., e-mail** |
| --- | --- | --- | --- |
| **1** | Dagay Ya. V. | First dty. General Director | 0 550 553 553 |
| **2** | Raimbekov U.K. | Dty. General Director | 0 772 539 793 |
| **3** | Usoltzev A.V. | Dty. Chief Engineer | 0 550 440 917 |
| **4** | Zinin D.I. | Chief of Design Dpt. | 0 550 789 139 |
| **5** | Ryspaev K.K. | Chief of Capital Construction Dpt. | 0 555 440 804 |
| **6** | Kolesnikov A.Yu. | Chief of Reliability and Safety Dpt. | 0 552 205 715 |
| **7** | Kurumshiev N. Dzh. | PIU Manager | 0 772 529 321 |
| **8** | Esenaman u. B | Chief of the Central district | 0 554 904 599 |
| **9** | Kondratyev S.V. | Chief of the Southern district | 0 555 923 076 |
| **10** | Sayfutdinov A.B. | Lawer | 0 709 188 777 |
| **11** | Rybalkin P.V. | Leading engineer of Capital construction Dpt. | 0 555 789 031 |
| **12** | Sharshekeev N. Dzh. | Procurement specialist | 0 700 209 341 |
| **13** | Busurmankulov K.S. | Sverdlovskiy city local administration | 0 500 244 724 |
| **14** | Toktosunov N. | Oktyabrskiy city local administration | 0 550 763 030 |
| **15** | Shambetova M.F. | “Bishkekglavarchitektura” municipality utility | 0 770 954 586 |
| **16** | Taytaliev O. | MTU No. 6 | 0 507 777 724 |
| **17** | Sherimkulov A.S. | “Bishkek-Nan” OJSC | 0 552 627 735 |
| **18** | Badov A.O. | International University of Kyrgyzstan | 0 709 340 702 |
| **19** | Kozhomkulov D.A. | “Forum” OJSC | 0 502 525 203 |
| **20** | Aytmatov K.T. | “GPNA” LLC, Gas station No. 11 | 0 770 962 106 |
| **21** | Orozaliev M. | “SHNOS” LLC “Bishkekpetroleum” Gas station No. 53 | 0 550 999 860 |
| **22** | Zholdoshbay u. B. | “Dasmiya” cafe | 0 555 929 993 |
| **23** | Zhumabaeva V. | “Dasmiya” cafe | 0 778 557 744 |
| **24** | Islamohunov R.I. | “Dubrovskiy” cafe | 0 557 744 211 |
| **25** | Meshkova N.I. | Bishkek City Hall, Communal services dty. | 0 555 717 852 |
| **26** | Tilekbekov K.T. | MTU No. 6 of Oktyabrskiy district | 0 500 059 080 |
| **27** | Semenyak P.A. | “Gaspromneft Asia” LLC | 0 550 071 155 |
| **28** | Shabanov V.A. | “MediaForum” OJSC | 0 550 304 081 |
| **29** | Zhumaliev K. | Safeguard Consultant | 0 505 981 066 |

Name of the person, who filled in the list: Zhumaliev K.B.

Position: Safeguard Consultant

Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_

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