ANNEX D
Environmental and Social Management Plan (ESMP)

CONSTRUCTION PHASE ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)

Ref No.	Subject	Relevant requirement	Mitigation measures	Responsible party	Timing	Monitoring and evaluation criteria
GENERAL						
C.1	Environmental and Social Management system	IFC PS1 EBRD PR1	Construction phase Environmental and Social Management System (ESMS) will be developed in line with international good practice and guidelines (i.e. ISO 9001: 2008 – Quality Management System, ISO 14001: 2004 – Environmental Management System, OHSAS 18001: 2007 – Occupational Health and Safety Management System). At present, the following plans are identified which will be part of the construction phase ESMS: • Environmental and Social Management Plan • Air Quality Control and Monitoring Plan • Waste Management Plan • Noise Control and Monitoring Plan • Marine Ecology Monitoring Plan • Emergency Preparedness and Response Plan • Traffic Management Plan • Stakeholder Engagement Plan • Occupational Health and Safety Management Plan • Community Health and Safety Management Plan • Cultural Heritage Management Plan • Fire Safety Master Plan • Contractor Management and Monitoring Plan • Livelihood Restoration Plan • Site Rehabilitation Plan • Biodiversity Action Plan	Contractor of Hattat Enerji ve Maden Ticaret A.S. (HEMA)	Prior to construction phase	• Ensure relevant personnel is hired for the implementation of the ESMS prior to construction • Ensure that site specific environmental and social plan /procedures are prepared prior to construction • Check monitoring records during construction • Check training/ inspection records prior to/during construction
C.2	Permitting	National legislation	All necessary permits/consents/approvals (including construction permit) will be obtained in accordance with the national legislation.	HEMA and Contractor	Prior to construction phase	• Ensure that comprehensive Permit List is prepared and permits are obtained in line with the relevant procedure of the ESMS
C.3	Life and Fire Safety Audit	IFC PS4 EBRD PR4	Third party Social Labor audit and Independent Health and Safety audit were conducted on Health and Safety issues including the Fire Safety (both inner and outside of the mines)	Service Provider(s) of HEMA	Construction phase	• Check audit reports

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LAND USE AND ZONING						
C.4	Zoning	National legislation IFC PS5	• The operational rights of Amasra Field B were transferred to HEMA for a period of 20 year pursuant to the royalty agreement between the Turkish Hard Coal Enterprise (TTK) and HEMA. • Private owners with registered title to land or property which is to be expropriated will be compensated for their loss and thereby provided with an alternative land agreement. • Any damages to lands, crops, assets and livestock in the neighborhood which might be occur during construction phase of the project will be compensated by HEMA. • Design and operation of the each project components will be done to minimize erosion, any damage to creek or stream bed and mass wasting. • There are a total of 11 parcels within the Project area which HEMA requires to be expropriated. Ten of these parcels are around Shaft-1 and the other one (No: 1052) is located in Shaft-3 area. HEMA will seek to apply feasible alternative project designs to minimize the area of land take and expropriation required. The expropriation process and land take shall be evaluated in terms of mitigations not only for Turkish legislations but also IFC PS 5 "Land acquisition and involuntary resettlement". • During expropriation process, HEMA will monitor the process and collaborate with the responsible government agency. • Physical and economical displacement will be minimized through the alternative and feasible project components design; when the economical displacement is unavoidable, HEMA will ensure appropriate compensation plan named "Livelihood Restoration Plan" including of the displaced people who face loss of lands or access to lands or income levels adversely affected. • Loss of forestland will be compensated through afforestation according to the inventory of Ministry of Forestry which will also be covered in the Site Rehabilitation Plan to be prepared.	Turkish Hard Coal Enterprise (TTK), HEMA and Ministry of Forestry	Prior construction and construction phase	• Check agreement made with TTK and HEMA (The contract duration can be extended for additional 10 year-periods upon request by HEMA) • Check the expropriation process and land take are in line with the Turkish Legislations and IFC PS 5 • Ensure that Livelihood Restoration Plan is prepared and in place • Check afforestation (together with the inventory of Ministry of Forestry is covered in Site Rehabilitation Plan
GEOLOGY, SOILS AND CONTAMINATED LAND						
C.5	Seismic risk	National legislaton	• The Project will be designed, constructed and operated in accordance with the Turkish and international regulations and standards and therefore, risks will be as low as technically and financially feasible for protection against	HEMA and Contractor	Construction phase	• Check construction inspection records

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			seismic activity. • Accurate assessment of worksite safety from rockfall and/or landslide will be conducted. Particular attention will be given after heavy rainfall, seismic events and after blasting activities. • Risks will be minimized by appropriate bench and pit slope design, blast pattern design, rock scaling, protective berms and minimizing traffic. • During the construction phase of the Project, voids that are left within the collected strata will be stowed to minimize the subsidence effect. • Below the determined risky areas, pillars between the production panels will be adjusted accordingly.			
C.6	Protection of soils and groundwater	IFC PS3 EBRD PR3 Best practice National legislation	• All contractors will be required to adopt good construction site practices for the protection of soils and to follow the IFC General Environmental, Health and Safety (EHS) Guidelines. • All usable soil material will be stripped and stored for rehabilitation. The depth of stockpiling should be determined so that it does not cause landslides. • Medium to long-term exposure of open bare soil surfaces will be avoided, so as to avert the risk of water runoff induced erosion. • Where surface vegetation is removed (for example to create roads or access ways), measures will be put in place so as to prevent excess surface water flow (inclusion of cut-off channels, culverts etc.). • Coal storage areas will be designed to prevent impacts to soil and water resources and will be paved with the associated leachate collection systems to segregate potentially contaminated storm water, which will be transferred to the wastewater treatment unit if the characteristics of potentially contaminated storm water do not meet the discharge criteria specified in the relevant national regulations. • Spoil and waste rock will be disposed in dumpsites designed in accordance with applicable regulations and located in approved areas.	Contractor of HEMA	Construction phase	• Periodic (e.g. weekly) site inspections • Check that spoil and waste rock dumpsites are designed in line with the relevant regulations and check their locations whether in approved areas
C.7	Soil Contamination Management Procedure	Best Practice IFC PS3 EBRD PR3	• A Soil Contamination Management Procedure will be included in the Emergency Preparedness and Response Plan. The procedure will ensure that any spillages from handling fuel and other hazardous liquids will be immediately contained on site and the contaminated soil will be removed from the site for suitable treatment and/or disposal. The Procedure will also	Contractor of HEMA	Prior to construction phase	• Ensure the Soil Contamination Management Procedure is in place and implemented

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		National legislation	be comprised of the followings; • All staff and subcontractors will be required to report any incidents and these will be subject to investigation; also remedial and preventive actions will be taken as needed. • Spill response kits including absorbent materials suitable for the materials will be present on site. These will be kept at designated areas with specific instructions for their use. Site staff will be trained on the use of spill kits. • Response to the spill will be made as fast as possible. Contaminated materials will be collected and sent to appropriate disposal facilities. • Soil will be stockpiled separately from any underlying spoil material and cross contamination will not be allowed			• Check that all staff and subcontractors reports incidents • Check that hazardous waste disposal records are kept properly • Control whether appropriate designated storage areas are constructed for fuel, oils, chemicals • Check the records of contaminated soil (if any occurred) disposal
HYDROLOGY AND HYDROGEOLOGY						
C.8	Protection of surface water and groundwater	National legislation	• Good construction site practices will be adopted to minimize risks of water pollution. • The waste rock dumpsite around Shaft-2 is very close to the borders of the defined Drinking and Utility Water Short Distance Protection Zone. Since any kind of waste dumping and storage is prohibited in the zone, excavated waste rock resulting from underground construction activities will not be placed in that direction any longer. • Groundwater levels in the vicinity of the mine will be monitored on a regular basis throughout construction. The monitoring data should be stored in an appropriate data management tool/database. • The surface water (a branch of Buyukdere Creek) flowing through the concrete culvert near Shaft-2 will be monitored and periodically cleared off any blockages according to official letter of 23rd Regional Directorate of State Hydraulic Works dated 02.03.2009.	Contractor of HEMA and 23rd Regional Directorate of State Hydraulic Works	Construction phase	• Control whether the design criteria are met and necessary measures related with monitoring are in place • Check that regular inspection of construction activities (not to cause any contamination to defined Drinking and Utility Water Short Distance Protection Zone and other sensitive areas • Ensure that the surface water quality monitoring records are kept
C.9	Spill Response	IFC PS3 EBRD PR3 Best	• A Hazardous Material Management Procedure will be included in Environmental Management Plan to ensure proper handling of hazardous materials during construction and operation of the port, coal washing and mining facilities.	Contractor of HEMA	Construction phase	• Ensure that A Hazardous Material Management Procedure is prepared and implemented as needed

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		Practice National legislation	• Suitably sized impervious bunds or other containment will be installed where hazardous materials are handled (such as fuels/chemicals/hazardous materials storage and loading areas, concrete mixing) to prevent hazardous materials entering the site runoff. • No fuelling of vehicles or equipment will take place within the excavated areas; no hazardous materials will be stored in excavated areas. Fuelling shall only be carried out in designated areas away from surface drainage pathways.			• Check whether the contaminated materials are properly stored and disposed
MATERIAL RESOURCES AND WASTE MANAGEMENT						
C.10	Supply of Materials	Best Practice	The following mitigation measures will be implemented related to the supply of materials: • Off-site management by specialized companies that can recover the heavy or precious metals will be provided through recovery and recycling processes, or by companies that can otherwise manage used catalysts or their non-recoverable materials. • Depending on their toxicity and radioactivity, coal bottom ash, slag, and fly ash in the heating systems will be recycled, if possible, given the availability of commercially and technical viable options such as; ○ Use of bottom ash as an aggregate in lightweight concrete masonry units, as raw feed material in the production of Portland cement, road base and sub-base aggregate, or as structural fill material, and as fine aggregate in asphalt paving and flowable fill, ○ Use of slag as blasting grit, as roofing shingle granules, for snow and ice control, as aggregate in asphalt paving, as a structural fill, and in road base and sub-base applications, ○ Use of fly ash in construction materials requiring a pozzolanic material	Contractor of HEMA	Construction phase	• Check records of construction material supply sources • Identification of opportunities for use of recycled or low carbon sources

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C.11	Waste Generation and Management	IFC PS3 EBRD PR3 National legislation	• Necessary permits or opinions related to disposal of the waste rocks in dumpsites will be obtained from the Local Environmental Authorities. • All waste will be collected, segregated, labeled and stored on site according to Turkish Environmental Regulations. • Continuous monitoring will be applied of waste minimization, segregation, collection, labeling, storage, transportation and recycling/disposal of all types of waste. • Record will be kept on waste generation, storage and transportation to third party waste management facilities will be maintained. • Periodic inspections will be conducted in the waste storage and disposal facilities to ensure proper disposal practices are implemented. • Runoff and leachate from waste rock dumpsites will be collected and the runoff will be treated to meet applicable environmental standards before discharge to surface water. • Spoil Dumpsites will be designed in such a way that the slope and orientation of windrows and/or leachate drains is maintained and free drainage of leachate to a collection drain is facilitated and ponding of leachate is avoided; shape the piles and windrows to maximize run-off and hence reduce infiltration	Contractor of HEMA	Construction phase	• Ensure that necessary permits/opinions from the Local Environmental Authorities for the disposal of waste rocks • Periodic site inspections to ensure that all wastes are separately collected, segregated, labeled and stored in designated areas • Check disposal records of all types of wastes • Check waste disposal contracts
C.12	Wastewater	IFC PS3 EBRD PR3 National legislation	• Domestic and industrial wastewater discharge to receiving bodies will be done according to the Regulatory limits. • Runoff and leachate from waste rock dumpsites will be collected and the runoff will be treated to meet applicable environmental standards before discharge to surface water.	Contractor of HEMA	Construction phase	• Check municipal sewer system connection certificate obtained from the relevant authority • Check effluent analysis results to ensure they met discharge criteria defined in the connection certificate
AIR QUALITY						
C.13	Dust emissions during construction	IFC PS3 EBRD PR3 Best Practice National	An Air Quality Control and Monitoring Plan will be prepared to include mitigation measures that will be taken to reduce the dust emissions during construction: • Minimal particulate emission from the construction activities will be maintained by good site management and housekeeping practices and use of dust suppression methods. Water spraying will be performed at	Contractor of HEMA	Construction phase	• Ensure that Air Quality Control and Monitoring Plan is prepared and implemented • Check results of air quality

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		legislation	dust generating areas inside the Project area especially during dry weather conditions. • Turkish Regulation on the Control of Excavated Soils, Construction and Demolition Wastes (Official Gazette Date/No: 18.03.2004/25406) will be followed which requires taking necessary measures to minimize dust emissions during excavations. • Excavated rocks and soil will be dumped only at designated areas and will be placed as far as possible from the settlements. Dusty and loose materials will be properly covered or top layers will be kept moist. • Screens will be placed as necessary at the dumping areas to reduce dust emissions. The following mitigation measures will be implemented to minimize dust emissions related to transport of materials during construction: • Vehicle speed limits will be applied inside the Project area. Truck operators will be trained to comply with speed limits and good construction site practices. • Transfer roads will be sprayed with water as necessary (for example using mobile bowsers) to prevent significant dust emissions especially in dry weather conditions. • Low sulphur fuel will be preferred as far as possible.			monitoring • Visual site inspections to check construction site practices • Training of workers and drivers to raise awareness
C.14	Exhaust emissions during construction	IFC PS3 EBRD PR3 Best Practice National legislation	• The construction equipment and trucks will be maintained regularly to keep them in good working condition to minimize exhaust emissions caused by poor performance. • Low sulphur fuel will be preferred as far as possible. • Engines of the equipment/trucks will be prevented from idling and running unnecessarily. • A Traffic Management Plan will be prepared and implemented which will decrease the impacts of the traffic load resulting from the construction activities. This, in turn, will lower the exhaust emissions from the truck movements.	Contractor of HEMA	Construction phase	• Ensure that Traffic Management Plan is prepared and implemented • Training of workers and drivers to raise awareness • Check vehicles' maintenance results
NOISE						
C.15	Noise	IFC PS3 EBRD PR3	A Noise Control and Monitoring Plan will be developed to cover the following mitigation measures during the construction phase in order to ensure that noise limit values set in the standards are met:	Contractor of HEMA	Construction phase	• Ensure Noise Control and Monitoring Plan is in place and implemented

Ref No.	Subject	Relevant requirement	Mitigation measures	Responsible party	Timing	Monitoring and evaluation criteria
		Best Practice National legislation	• Long term noise measurements should be taken during the both phases. • Mobile noise barriers should be apply on critical locations. • Implementation of work schedule planning of the noisy activities (ie. Not working with high noise level equipment during night time) will be implemented. • 'Low-noise' equipment will be used during construction phase as far as possible. Where construction equipment is provided with sealed acoustic covers or enclosures, these will be kept closed whenever the machines are in use. • Maintenance procedures will be implemented in order to keep equipment in good working condition to minimize extraneous noises caused by poor performance. • Machines will be shut down or throttled down to a minimum when not in operation. • Construction activities will be carried out during daytime. • Necessary consent will be obtained from Bartın Provincial Directorate of Environment and Urban Planning for undertaking construction activities during evening and night time, if needed. • Noisy activities taking place within construction sites will be located away from the residential areas as far as possible. • On-site structures such as containers, offices, hoardings will be used to screen sensitive receptors from noise sources as far as possible. Where necessary movable noise barriers (2-2.5 m high) will be used to ensure receptor noise levels are less than the limit values adjacent to noisy activities. • Awareness among construction workers will be increased regarding noise mitigation.			• Check results of noise monitoring and vibration-if needed- monitoring • Site inspections to check construction site practices
ECOLOGY						
C.16	Flora & Fauna	National legislation IFC PS6 EBRD PR6	<u>Flora</u> • A Biodiversity Action Plan (BAP) including a set of future actions that enables the conservation or enhancement of biodiversity will be developed. • The most appropriate species to be used for landscaping purposes are those that have already been brought to the site for plantation. However, the	Contractor of HEMA	Post-construction (for landscaping)	• Ensure that A Biodiversity Action Plan is prepared and in place • Check seeds of endemic plant species in the region is

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			seeds of endemic plant species in the region will be collected by experts during the appropriate seasons and will be stored in seed banks until the end of the construction phase of the Project. • After the construction is finished, the collected seeds will be dispersed throughout the disturbed areas. • Uncontrolled burning of combustible materials will not be allowed in the forest areas during Project activities. • During the construction phase water will be sprayed to prevent dust emissions from excavation, transportation and disposal activities. <u>Fauna</u> • Project activities that may cause adverse effects on fauna species will not be conducted during spring season and twilight hours (one hour before and after sunrise, one hour before and after sunset). Testudo graeca (Spur-thidged Tortoise) is listed under the IUCN List as VU (Vulnerable). Spoil and waste rock coverage of habitats for these animals will not start before April. • Waste rocks produced during gallery opening are disposed onto the vegetation directly. Covering the habitats may cause death of animals under the waste rock layer. All vegetation will be cleared by cutting and then surface soil will be taken away with a depth of 30 cm so as to prevent animal death and allow animals to move away to suitable habitats. • Environmental habitats will be restored to enable the return of these species back to the project area after the completion of the construction activities. All construction and operation activities of the Project will be conducted pursuant to the Environmental Law (Law No: 2872), National Parks Law (Law No: 2873), Land Hunting Law (Law No: 4015) and their regulations. Also, requirements of the CITES Convention and the 6th and 7th Articles of the Bern Convention will be met during the construction and operation phases of the Project			collected to be dispersed after the construction phase of the Project • Ensure that any construction activities are not conducted in spring season and twilight hours • Check all construction activities in line with the national and international standards.
C.17	Marine Ecology	National legislation IFC PS6 EBRD PR6	• Good construction site practices will be adopted to minimize risks of water pollution and sediment plume. • A Marine Ecology Monitoring Plan will be developed for the Project. • Four of the fish species within the Project Site are threatened species. Between March and July in the breeding period of both species heavy construction should be supervised by an expert biologist. • Noise and vibration (from ship engine, pile driving and filling) may have a	Contractor of HEMA	Construction phase (for marine environment)	• Check that Marine Ecology Monitoring Plan is prepared and developed. • Ensure that any construction activities between March and July supervised by an

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			significant impact on the four fish species listed under the IUCN list. • Construction activities within the marine environment will potentially increase the turbidity of the water and increase the level of suspended solids and nutrient content while also reducing sunlight penetration into the deep-sea which result in the decreased oxygen levels and increased nutrient concentrations. However, given the size and nature of Project Site, all effects mentioned will only lead to temporary damage of the ecosystem and loss of biomass. • HEMA Port construction activities will be performed between the land border and the screen which in turn minimize the effect of turbidity on sea environment and the shoaling. • The recreated area will be an important sheltering, feeding, and nesting area for biological life after the construction activities are completed. • Potential discharges and run-off which may result in marine water and bottom sediment contamination leads to the deterioration of aquatic species will be minimized. • Within the scope of the Project, it will not be allowed to discharge ballast water into the marine environment. • All construction and operation activities of the Project will be conducted pursuant to the Environmental Law (Law No: 2872), Aquatic Products Law (Law No: 1380), the National Parks Law (Law No: 2873), the Land Hunting Law (Law No: 4015) and also requirements of the CITES Convention and the 6th and 7th articles of the Bern Convention. Since the port area is located within the aquatic products production zone, the necessary permit will be obtained from the Ministry of Agriculture, Food and Livestock pursuant to the Aquatic Products Law (Law No: 1380).			expert biologist. • Check that the screen (which is also called concrete screen) is applied to minimize the associated impacts. • Check the discharge ballast water into the marine environment is strictly banned. • Ensure that construction activities in line with the national and international standards. • Check necessary permits obtained from Ministry of Agriculture, Food and Livestock.
SOCIO-ECONOMY						
C.18	Economy and employment	IFC PS2 EBRD PR2	• Recruitment procedures will be in line with Project Owners Human Resources Policy that is to be developed for the Project. This will include the aim to provide opportunities for employment of local workforce to the extent possible considering unskilled, semi-skilled and skilled workforce. • The Project will seek to maximize the benefits from the Project to local communities in terms of direct and indirect employment, and purchasing of local good and services during construction. This will include measures such as adopting local employment and purchasing policies to the extent possible establish tenders for procurement of subcontracted goods and services at a	Contractor of HEMA	Construction phase	• Check relevant records with regard to local employment and local purchasing policies • Ensure that workers camp and construction areas are only open to formal employees • Check whether strict code of conduct for workers to

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			scale that local businesses can respond to and ensuring that the opportunities are advertised locally. • The contractor should be required to adhere to policies and codes of conduct concerning employment and workforce behavior. Measures to be incorporated into these policies in order to reduce or avoid socio-economic impacts are: • Ensure that the workers camp and construction areas are open only to formal employees; • Develop and implement strict code of conduct for workers to regulate behavior in the local communities including road safety.			regulate behavior in the local communities including road safety is in place
C.19	Social Environment	IFC PS2/PS4 EBRD PR2/PR4	• Necessary appeals will be made to governmental authorities in order to provide the enhancement and improvement of health and education facilities in the region for the expected population increase. • Coal mine and construction worker accommodation compounds will be located as such to minimize adverse effects on the existing population. The accommodation containers will provide housing conditions equipped with all applicable health and safety regulations and norms. • The contractor should be required to adhere to an Environment and Social Management Plan. Measures to be incorporated into this plan includes the followings ; o Inform local communities of major activities in advance; o Ensure all dangerous construction sites and areas used for mining-related activities are fenced off; o Ensure the construction sites and areas used for mining-related activities do not block the passage ways of any animal breeders; o The area impacted during construction will be limited and wherever possible, access to agricultural land will be restricted. o Improve quality of roads being used by the project. o Establish a grievance mechanism in order to resolve the complaints in a just, efficient and timely manner. o Inform the local communities of employment and procurement opportunities to keep public sensitization alive throughout the construction;	Contractor of HEMA	Construction phase	• Check workers accommodation containers are provided according to the health and safety norms • Ensure that a grievance mechanism is prepared and in place • Ensure that Environmental and Social Management Plan is prepared and implemented

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COMMUNITY HEALTH, SAFETY AND SECURITY						
C.20	Community health, safety and security (general)	IFC PS4 EBRD PR4	• A Community Health and Safety Management Plan will be developed and implemented to manage risks and impacts to the community. This plan will include measures to address the identified risks and ensure the disclosure of relevant Project-related information to enable the affected communities to understand the risks and impacts. • The risks and impacts of the Project, in the context of communication and social management practices with local community will be managed through a Social Management Plan; including Stakeholder Engagement, Human Resources and Employment, Land Use Management to be developed and implemented by HEMA. • All employees will be trained on health and safety, and an Emergency Preparedness and Response Plan to be prepared in accordance with the guidance of APELL Technical Report. • All relevant health and safety regulations will be followed during the development and construction of the Project in order to minimize accidents that may have impacts on the community and to control potential Project related releases and/or emissions. • Necessary appeals will be made to governmental authorities in order to provide the enhancement and improvement of health facilities in the region for the expected population increase. • All relevant mitigation measures described for the construction phase will be implemented. • A grievance management system will be in place that will enable the community to raise concerns during the lifetime of the Project.	Contractor of HEMA	Construction phase	• Ensure that the Community Health and Safety Management Plan is in place and implemented • Check records of health and safety training of employees • Ensure that a Social Management Plan is prepared and in place. • Check an Emergency Preparedness and Response Plan is prepared and in place in accordance with the APELL guidance. • Ensure that Grivance Management System is in place • Check that the grievances are handled appropriately and in a timely manner
C.21	Dust and noise impacts on the nearby community	IFC PS4 EBRD PR4	Specific impacts related to dust and noise will be managed through the implementation of the following measures: • Necessary measures (covering materials, water suppression, etc.) will be taken to avoid and/or minimize dust emissions during the construction phase. • An Air Quality Control and Monitoring Plan will be prepared and implemented during the construction phase of the Project. • Construction activities will be planned in a way considering the nearby communities and noise generating activities are not planned to be undertaken during evening and night time. • A Noise Control and Monitoring Plan will be prepared and implemented	Contractor of HEMA	Construction phase	• Ensure Air Quality Control and Monitoring Plan is in place and implemented • Ensure Noise Control and Monitoring Plan is in place and implemented

Ref No.	Subject	Relevant requirement	Mitigation measures	Responsible party	Timing	Monitoring and evaluation criteria
			during the construction phase of the Project. • Drivers of trucks and vehicles will adhere to defined speed limits and will be warned against creating unnecessary noise by using horns during the construction phase. • All vehicles and work machinery will be subject to periodic maintenance with the aim of reducing noise, dust and gas emissions from vehicles. 'Low-noise' equipment such as noise barriers and surface isolations will be used.			
C.22	Influx of workers and management of workforce	IFC PS2/PS4 EBRD PR2/PR4	• HEMA intends to recruit construction workforce locally to the extent possible and provide appropriate on-site pre-fabricated facilities to those employees who need onsite accommodation. • In-migration of large group of workers can also lead to the introduction of new infections to remote areas where the community has little or no natural immunity to them in the region. Other than that, influx of new people, living away from their families may also result in an increased risk of sexually transmitted infections such as HIV/AIDS, gonorrhea and chlamydia. • HEMA will attempt to minimize transmission of communicable diseases that may be associated with the influx of temporary or permanent Project labor. • Good communication and working in partnership with local communities and the local police alongside good training of Project staff to ensure crime and safety issues are prevented from happening.	Contractor of HEMA	Construction phase	• Ensure that the Contractor provide appropriate on-site pre-fabricated facilities • Check HEMA take all necessary cautions related with the influx of workers • Check that HEMA undertake necessary mitigations to minimize transmission of communicable diseases (*if required*)
C.23	Road traffic	IFC PS4 EBRD PR4	• Traffic Management Plan will be implemented to manage the internal and external traffic for the coal transportation including the construction phase of the project that will take into account vehicular traffic, emergency conditions, pedestrian traffic entering, exiting and internal traffic.	Contractor of HEMA	Construction phase	• Ensure that the Traffic Management Plan (for internal and external) is in place and implemented • Ensure that traffic signs are placed sufficiently
C.24	Infrastructure safety	National legislation	• The structural elements and components of the Project will be designed and built according to national regulations and international best practice. During the construction Works, HEMA will comply the following regulations to prevent risk of structural failures and minimize the occurrence of incidents; Regulation on Buildings to be Constructed in Seismic Zones (Official Gazette date/no: 06.03.2007/26454) and Technical Regulation on Seismic Design of Coastal Structures, Ports, Railways, Airports (Official Gazette date/no: 18.08.2007/26617).	Contractor of HEMA	Construction phase	• Check contract with a Construction Inspection Company • Check construction inspection records

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C.25	Security	IFC PS4 EBRD PR4 Best Practice National legislation	• In mine sites, qualified security personnel should exist to control transport, storage and use of explosives on site. During the construction phases of the project, a security personnel will be in place in order to minimize the risk of an incident and to be prepared in case of an emergency, in all units of the facility. According to the Turkish Mining Law No. (3213) and pursuant to the Article 29 "All mining activities shall be stopped in case of determination of dangerous conditions that risks security of life and property".	Contractor of HEMA	Construction phase	• Ensure that all necessary cautions are undertaken pursuant to Turkish Mining Law • Check credentials of security staff • Check training records of security staff
C.26	Hazardous materials	IFC PS3/PS4 EBRD PR3/PR4 Best Practice National legislation	• All hazardous materials will be separately collected and will be sent to licensed recycling and disposal facilities according to the provisions stated in Hazardous Waste Control Regulation. As a result of this, the risk associated with the hazardous waste is low due to the fact that hazardous waste collection, transport and disposal are common practice that is well regulated by MEUP.	Contractor of HEMA	Construction phase	• Ensure that Hazardous Materials are collected and disposed according to the Hazardous Waste Control Regulation
LABOR AND WORKING CONDITIONS						
C.27	General	IFC PS1 EBRD PR1 Best Practice	• An ESMS covering construction activities and OHSAS 18001:2007 certificate requirements will be developed.	Contractor of HEMA.	Prior to construction phase	• Ensure relevant personnel is hired for implementation of the ESMS prior to construction • Ensure that site specific environmental and social plan /procedures are approved by the management responsible • Check monitoring records • Check training/ inspection records
C.28	Human resources (HR)	IFC PS2 EBRD PR2 National legislation	The following measures will be implemented related to recruitment and management of labor: • An HR manager will be appointed to ensure implementation of HR Policy. • Child and forced labor will be prohibited.	HEMA and Contractor	Construction phase	• Ensure implementation of the HR Policy • Check records of personnel files

Ref No.	Subject	Relevant requirement	Mitigation measures	Responsible party	Timing	Monitoring and evaluation criteria
			• Workers will have contracts in place prior to commencement setting out working conditions, terms of employment and EHS responsibilities. • All workers will be insured under Social Security Institution.			
C.29	Grievances	IFC PS2 EBRD PR2	• A grievance mechanism will be developed for employees and included in the ESMS. Employees will be informed about this mechanism at the time of hiring. • Grievance mechanism will be extended to non-employee workers.	HEMA and Contractor	Construction phase	• Ensure grievances are managed appropriately • Check relevant records
C.30	Occupational health and safety	IFC PS2 EBRD PR2 National legislation	The following mitigation measures will be applied to manage the health and safety of the employees: • All applicable national health and safety legislation and international regulations (i.e. ILO Code of Practice for Safety and Health in Ports) will be followed. • All the risks of each activity at the project component sites will be identified followed by identification of the appropriate mitigation measures/personal protective equipment. • Earplugs will be provided to workers dealing with noisy activities. • All employees (including sub-contractors) will be trained on health and safety, and emergency preparedness and response plan to respond timely to the incidents. • Dust emissions will be minimized to the extent possible with the implementation of mitigation measures mentioned under the title Air Quality. • Workers (including sub-contractors) will be provided safety briefings every day before the work starts and provided with necessary personal protective equipment. • Work permits will be required for high risk activities such as working at heights, operation of heavy equipment and similar. • All accidents and incidents will be recorded. • The efficiency of health and safety practices will be monitored through internal and external audits, and corrective actions will be taken if required. • All employees (including sub-contractors) will be trained on health and safety, and EPRP to respond timely to the incidents. • HEMA will develop and implement a detailed management plan to mitigate immediate health and safety hazards on site. •	Contractor of HEMA	Construction phase	• Ensure implementation of ESMS • Checks records of internal and external audits • Check training records of workers

Ref No.	Subject	Relevant requirement	Mitigation measures	Responsible party	Timing	Monitoring and evaluation criteria
C.31	Fire Safety	IFC PS4 EBRD PR4 National legislation	Fire safety measures will be taken by performing the following steps at a minimum: • All the project components will be designed and constructed in full compliance with the "Regulation on the Protection of Buildings from Fire" Official Gazette 26735 Date 19.12.2007. • When local standards are not sufficiently detailed and are incomplete, internationally accepted life and fire standards (NFPA standards, IBC Codes and EN standards) will be applied. For this reason, mapping of Turkish requirements for life and fire safety will be conducted in order to identify the insufficient areas and incorporate them into the design based on the international standards. HEMA will demonstrate that the buildings as well as life and fire safety systems and equipment will have been designed and installed appropriately at the facilities. • "Regulation on Protection of Buildings from Fire (Official Gazette Date/Number: 19.12.2007/26735) brings forward detailed requirements for the design and operation of the facilities taken into account fire prevention issues (i.e. fuel load and control of combustibles), means of egress, detection of alarm systems, compartmentalization, fire suppression and control. • A “Fire Safety Plan” shall be prepared in line with the provisions stated in article 5, 6, 7, and 8 of the Occupational Health and Safety Regulation on Mining Works (O.G. number/date: 28770/19.03.2013. According to this regulation, “Fire Safety Plan” shall include detailed information on the fire protection, the detection of fire commencement and spread and actions to be taken against to fire fighting.	Contractor of HEMA	Prior to/during construction phase	• Check the document of “Mapping of Turkish Requirements for Fire Safety” • Check third party audit report • Ensure that Fire Safety Plan is prepared and in place
C.32	Subcontractors and suppliers	IFC PS2 EBRD PR2	• Subcontractors will be required to follow the requirements of IFC PS2 and EBRD PR2 (Labor and Working Conditions). Contracts to be signed with sub-contractors will include EHS requirements.	HEMA and Contractor	Construction phase	• Check contracts of subcontractors in line with Subcontractor Management and Monitoring Plan. • Ensure that ESMS includes necessary environmental, health and safety provisions for subcontractors and suppliers.
C.33	Workers’	IFC PS2	Workers’ accommodation will be managed in line with the provisions of IFC PS2 and EBRD PR2 provisions and the guidance note on worker’s accommodation	Contractor of	Construction	• Audit of accommodation

Ref No.	Subject	Relevant requirement	Mitigation measures	Responsible party	Timing	Monitoring and evaluation criteria
	accommodation	EBRD PR2	published by IFC and EBRD (Worker's Accommodation: Processes and Standards).	HEMA	phase	facilities to check whether appropriate conditions are provided to the workers
CULTURAL HERITAGE						
C.34	Chance find during construction	IFC PS8 EBRD PR 8	A Cultural Heritage Management Plan (CHMP) including a chance find procedure. Shall be developed and implemented in collaboration with the Turkish Ministry of Culture and Tourism if proposed project expansion decided. • Appropriate staff training in cultural heritage awareness will be undertaken by staff and contractors (including both native and Chinese workers) during operational phases of the Project to assist in the prevention of interference or accidental damage to cultural heritage. • Chance Find Procedure shall be conducted during both construction and operations of the Project using an "Archaeological Chance Find Report Form" by construction site responsible to record the date and time of discovery, coordinates of the location of the chance find, description of the chance find, contacts made with the authorities and decisions taken, and the date of recommencement of work. • Should chance finds of archaeological assets objects occur during Project construction activities, the relevant museum directory will be informed of chance finds pursuant to 2863 numbered "Law on the Conservation of Cultural and Natural Property". • An effective monitoring undertaken to demonstrate the mining activities have no significant adverse impact on the special values for those protected areas. • An effective monitoring undertaken to demonstrate the mining activities have no significant adverse impact on the special values for those protected areas. • HEMA will identify and protect cultural heritage by ensuring that both national and internationally recognized practices for the protection, field-based study and documentation of cultural heritage are implemented. • HEMA is responsible for siting and designing a project to avoid significant adverse impacts to cultural heritage and any mitigation works to be agreed in consultation with the Ministry of Culture and Tourism, and designed and executed in line with the national guidelines.	Contractor of HEMA and Ministry of Culture and Tourism	Construction phase	• Ensure that Cultural Heritage Management Plan is in place and implemented • Check the training records of all staff • Ensure that relevant museum directory informed in case of chance finds. • Ensure that Chance Find Procedure is in place and "Archaeological Chance Find Report Form" is kept.

OPERATION PHASE ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)

Ref No.	Subject	Relevant requirement	Mitigation measures	Responsible party	Timing	Monitoring and evaluation criteria
GENERAL						
O.1	Environmental and Social Management system	IFC PS1 EBRD PR1	Operation phase Environmental and Social Management System (ESMS) will be developed in line with international good practice and guidelines (i.e. ISO 9001: 2008 – Quality Management System, ISO 14001: 2004 – Environmental Management System, OHSAS 18001: 2007 – Occupational Health and Safety Management System). At present, the following plans are identified which will be part of the operation phase ESMS: • Environmental and Social Management Plan • Air Quality Control and Monitoring Plan • Noise Control and Monitoring Plan • Waste Management Plan • Stakeholder Engagement Plan • Marine Ecology Monitoring Plan • Emergency Preparedness and Response Plan • Traffic Management Plan • Community Health and Safety Management Plan • Occupational Health and Safety Management Plan • Fire Safety Master Plan • Contractor Management and Monitoring Plan • Livelihood Restoration Plan and Resettlement Action Plan (if needed) • Site Rehabilitation Plan • Biodiversity Action Plan	Service Provider(s) of HEMA	Prior to operation phase	• Ensure that necessary staff are appointed for the implementation of the ESMS prior to operation • Ensure that site specific environmental and social plan /procedures are approved by the management responsible of the system • Check monitoring records • Check training/ inspection records
O.2	Permitting	National legislation	All necessary permits/consents/approvals will be obtained in accordance with the national legislation.	Service Provider(s) of HEMA	Prior to operation phase	• Ensure that comprehensive Permit List is prepared and permits are obtained in line with the relevant procedure of the ESMS.
O.3	Life and Fire Safety Audit	IFC PS4 EBRD PR4	Third party Social Labor audit and Independent Health and Safety audit were conducted on Health and Safety issues including the Fire Safety (both inner and outside of the mines)	Service Provider(s) of HEMA	Prior to operation phase	• Check audit reports

Ref No.	Subject	Relevant requirement	Mitigation measures	Responsible party	Timing	Monitoring and evaluation criteria
GEOLOGY, SOILS AND CONTAMINATED LAND						
O.4	Spills/accidents and contaminated land	IFC PS3 EBRD PR3 National legislation Best Practice	All contractors will be required to adopt good construction site practices for protection of soils and to follow the relevant IFC Guidelines. • The Project will be operated in accordance with the Turkish and international regulations and standards and therefore, risks will be as low as technically and financially feasible. • Monitoring will be undertaken on a regular basis from three points to measure subsidence movements. Infrastructure and occupants to be impacted by land subsidence will be relocated in well advance of predicted impacts, as necessary. • Below the determined risky areas, pillars between the production panels will be adjusted accordingly. • To minimize the subsidence effect, voids that are left within the collected strata will be stowed. • The Project will be designed and operated for protection against seismic activity (e.g. all structures including waste rock and spoil dump sites and underground excavations). • Accurate assessment of worksite safety from rockfall and/or landslide will be conducted.. Risks will be minimized by appropriate bench and pit slope design, blast pattern design, rock scaling, protective berms and minimizing traffic. • A Site Rehabilitation Plan will be developed and implemented, addressing both interim and final land rehabilitation requirements including topsoil management, soil stabilization, erosion potential and control and afforestation activities. • Erosion controls relative to possible soil erosion from vehicular traffic, construction and mining activities will be applied (e.g. jute netting, silt fences and check dams). • Coal storage areas will be designed to prevent impacts to soil and water resources and will be paved with the associated leachate collection systems to segregate potentially contaminated storm water, which will be transferred to the wastewater treatment unit if the characteristics of potentially contaminated storm water do not meet the discharge criteria specified in the relevant national regulations. • A Soil Contamination Management Procedure will be included in the Emergency Preparedness and Response Plan	Service Provider(s) of HEMA	Operation phase	• Ensure that Soil Contamination Management Procedure is in place and implemented • Ensure implementation of the Emergency Preparedness and Response Plan • Monitor subsidence movements • Ensure Site Rehabilitation Plan is prepared and in place.

Ref No.	Subject	Relevant requirement	Mitigation measures	Responsible party	Timing	Monitoring and evaluation criteria
			• Operations will avoid creating excessive slopes during excavation and blasting operations.			
HYDROLOGY AND HYDROGEOLOGY						

O.5	Protection of surface water and groundwater	IFC PS3
		EBRD PR3
		Best Practice
		National legislation
			• The surface water (a branch of Buyukdere Creek) flowing through the concrete culvert near Shaft-2 will be monitored and periodically cleared off any blockages according to official letter of 23rd Regional Directorate of State Hydraulic Works dated 02.03.2009.
			• Dust and sweepings will be appropriately managed and the ground will be paved in order to minimize potential runoff and interaction of water with coal in the Project area.
			• Storm water runoff from the mine property will be monitored adequately in addition to treatment of effluent streams and will be transferred to the wastewater treatment unit to meet the discharge criteria specified in the relevant national regulations, if deemed necessary.
			• The high rate of occurrence of acid drainage and associated metals contamination associated with mining operations is well documented and is recognized as a major adverse consequence of many hard-rock metals mining operations. In addition,
			  ○ verification of metal leaching and neutralising potential of the overburden material (sandstone, clay, dolerite, and potentially small quantities of coal),
			  ○ conducting kinetic field tests on waste rock and spoil samples to determine the duration of oxidation (and hence potential surface and groundwater contamination), and
			  ○ Reviewing the waste management strategy according to the results of the tests above will be undertaken.
			• A Hazardous Material Management Procedure will be included in Environmental and Social Management Plan (ESMP) to ensure proper handling of hazardous materials during operation of the port, coal washing and mining facilities.
			• Groundwater levels in the vicinity of the mine will be monitored on a regular basis throughout operation and post-closure phases.
			• Mine dewatering volumes/rates should also be monitored throughout the operational phase of the Project. The monitoring data should be stored in an appropriate data management tool/database.
			• Springs and other wells used by villagers or any other public institutions will
				Service Provider(s) of HEMA	Operation phase	• Check the records of regular monitoring of surface water (Buyukdere Creek)
						• Check Wastewater treatment effluent discharges meet the discharge criteria
						• Ensure that kinetic field tests on waste rock and spoil samples are conducted and appropriated waste management is applied.
						• Check groundwater levels is monitored on a regular basis.
						• Ensure that mine dewatering is monitored and relative data is stored.
						• Check seasonal and annual measurements of drinking water quality.
						• Ensure that the Hazardous Material Management Procedure is included in (ESMP) and implemented

Ref No.	Subject	Relevant requirement	Mitigation measures	Responsible party	Timing	Monitoring and evaluation criteria
			be monitored in terms of availability and quality throughout the operational phase of the Project. • It is prudent to perform seasonal or annual measurements and chemical analysis of drinking quality of water instead of a single or short-term measurement since arsenic concentration for well 13 is 6.5 times higher than that of Kavsak Creek water sample (KVS) and 7.8 times higher than that of municipal drinking water sample (45).			
O.6	Spill response	IFC PS3 EBRD PR3 Best Practice National legislation	• No fuelling of vehicles or equipment will take place within the excavated areas; no hazardous materials will be stored in excavated areas • Suitably sized impervious bunds or other containment will be installed where hazardous materials are handled (such as fuels/chemicals/hazardous materials storage and loading areas, concrete mixing) to prevent hazardous materials entering the site runoff.	Service Provider(s) of HEMA	Operation phase	• Ensure that spill response materials and kits are in place • Check training records • Ensure that EPRP is prepared and implemented as needed • Check whether the contaminated materials are properly disposed
MATERIAL RESOURCES AND WASTE MANAGEMENT						
O.7	Supply of materials	Best Practice	Recycled materials and materials certified as eco-friendly and low carbon will be used to the extent possible.	Service Provider(s) of HEMA	Operation phase	Identification of opportunities for use of recycled or low carbon sources
O.8	Waste generation and management	IFC PS3 EBRD PR3 National legislation	• Controlled Waste Storage Facility License will be applied and obtained for spoil dumpsites before the CWPs enter into service. • Waste characteristics of the coal processing will be monitored during the lifetime of the mine and the records will be shared with the Ministry of Environment and Urban Planning (MEUP) on annual basis. • Necessary permits or opinions related to disposal of the waste rocks in dumpsites will be obtained from the Local Environmental Authorities. • Periodic inspections will be conducted in the waste storage and disposal facilities to ensure proper disposal practices are implemented. • All waste will be collected, segregated, labeled and stored on site according to Turkish Environmental Regulations. • Continuous monitoring will be applied of waste minimization, segregation,	Service Provider(s) of HEMA	Operation phase	• Ensure that Controlled Waste Storage Facility License is obtained • Check the records of characteristics of wastes generated from coal processing is kept and shared with MEUP • Check necessary permits regarding the waste rock dumpsites are obtained from relevant

Ref No.	Subject	Relevant requirement	Mitigation measures	Responsible party	Timing	Monitoring and evaluation criteria
			collection, labeling, storage, transportation and recycling/disposal of all types of waste. • Record will be kept on waste generation, storage and transportation to third party waste management facilities will be maintained. • Management of Potentially Acid Generating (PAG) wastes should be done such as conducting a comprehensive series of accelerated leaching tests, limiting exposure of PAG materials to environment, implementation of water management techniques such as diverting clean runoff away from PAG materials, and segregating "dirty" runoff from PAG materials for subsequent treatment; grading PAG material piles to avoid ponding and infiltration; and removing pit water promptly to minimize acid generation. • Depending on their toxicity and radioactivity, coal bottom ash, slag, and fly ash in the heating systems will be recycled, if possible, given the availability of commercially and technical viable options. • Port operators will prepare a Spill Prevention, Control and Countermeasure Procedure included in Emergency Preparedness and Response Plan (EPRP) of HEMA Port. • Off-site management by specialized companies that can recover the heavy or precious metals will be provided through recovery and recycling processes, or by companies that can otherwise manage used catalysts or their non-recoverable materials.			authorities • Ensure that waste generation, storage and transportation activities are well documented. • Periodic inspections to ensure that all wastes are separately collected, segregated, labeled and stored in designated areas • Check disposal records of all types of wastes • Check waste disposal contracts • Check copies of haulers' and disposal facilities' licenses • Check declaration records made to the Ministry of Environment and Urban Planning (MEUP) • Ensure that all waste manifests are in order and ready for review during the audits of the Provincial Directorate of Environment and Urban Planning • Check the management of PAG is implemented appropriately • Check training records of staff and awareness

Ref No.	Subject	Relevant requirement	Mitigation measures	Responsible party	Timing	Monitoring and evaluation criteria
						during site audits • Ensure that EPRP is prepared and in place
O.9	Wastewater	IFC PS3 EBRD PR3 National legislation	• Domestic and industrial wastewater discharge to receiving bodies will be done according to the Regulatory limits. • Runoff and leachate from waste rock dumpsites will be collected and the runoff will be treated to meet applicable environmental standards before discharge to surface water. • Port operators will provide collection, storage and transfer and/or treatment services, and facilities of sufficient capacity and type for all wastewater generated by vessels at the port in accordance with MARPOL and national regulations.	Service Provider(s) of HEMA	Operation phase	• Check municipal sewer system connection certificate obtained from the relevant authority • Check effluent analysis results to ensure they met discharge criteria • Check conformity with Marpol requirements and national legislations
AIR QUALITY						
O.10	General	IFC PS3 EBRD PR3 National legislation	• An Air Quality Control and Monitoring Plan will be developed to include mitigation measures that will be taken to minimize emissions during operation. • Air Quality Control and Monitoring Plan will include details of sampling locations, monitoring frequency, methods of sampling for each parameter, applicable regulatory limits and will require analysis of samples by accredited laboratories. • Low sulphur fuel will be preferred as far as possible. • Engines of the equipment/trucks will be prevented from idling and running unnecessarily.	Service Provider(s) of HEMA	Operation phase	• Ensure that Air Quality Control and Monitoring Plan is prepared and implemented • Check results of air quality monitoring
O.11	Traffic	IFC PS3 EBRD PR3	• A Traffic Management Plan will be prepared and implemented which will decrease the impacts of the traffic load resulting from the coal transportation. This, in turn, will lower the exhaust emissions from the truck movements. • Trucks carrying coal will be covered before leaving the construction area. • Coal will be conveyed to the port area in covered containers and good site practices will be applied for coal storage areas.	Service Provider(s) of HEMA	Operation phase	• Ensure that Traffic Management Plan is in place and implemented • Check good site practices are being applied for coal transportation

Ref No.	Subject	Relevant requirement	Mitigation measures	Responsible party	Timing	Monitoring and evaluation criteria
NOISE						
O.12	General	IFC PS3 EBRD PR3 Best Practice	• A Noise Control and Monitoring Plan will be set up during the operation phase to measure noise levels at the closest sensitive receptors (closest residences from Tarlaagzi and Gomu Villages) for 24 hours. It is suggested that noise monitoring measurements are conducted monthly If levels at receptors exceed the standards, measures will be taken to reduce noise levels so that the limit values are met. • A work schedule planning of the noisy activities (ie. Not working with high noise level equipment during night time) will be implemented. • Vibration levels will be monitored upon a grievance is made by the nearby residents and if the standards are exceeded, measures will be taken to reduce vibration. • All noise generating equipment and machinery during operation will be placed in buildings with isolated walls, and the design of the technical unit building and selection of silencers are made such that the indoor noise levels at the hospitals do not exceed the regulatory standards. • Maintenance procedures will be implemented in order to keep equipment in good working condition to minimize extraneous noises caused by poor performance.	Service Provider(s) of HEMA	Operation phase	• Ensure that Noise Control and Monitoring Plan is in place and implemented • Ensure use of noise silencers as needed • Appropriate noise abatement measures
O.13	Traffic	IFC PS3 EBRD PR3 Best Practice	Mitigation measures to lower the noise impacts related to the coal transportation are; • Speed will not exceed 30 km/hr during the coal transportation, • 'Low-noise' equipment such as noise barriers and surface isolations will be used, • All vehicles and work machinery will be subject to periodic maintenance with the aim of reducing noise, dust and gas emissions from vehicles. • Drivers will be warned against creating unnecessary noise by using horns.	Service Provider(s) of HEMA		• Check noise abetement measures are undertaken for coal transportation
TRAFFIC IMPACT						
O.14	General	IFC PS4 EBRD PR4	• The following actions will need to be conducted to understand the potential adverse impacts created by the increased traffic during the operational activities: • A comprehensive Traffic Management Plan will be prepared by company administration and implemented in order to manage the internal traffic in the Project site that will take into account vehicular traffic, emergency	Service Provider(s) of HEMA	Prior to operation phase	• Ensure that the traffic study is completed • Ensure that Traffic Management Plan is in place and implemented • Check coal is not

Ref No.	Subject	Relevant requirement	Mitigation measures	Responsible party	Timing	Monitoring and evaluation criteria
			conditions and pedestrian traffic. • A transportation map showing all accessible roads in the region and pointing out the coal transportation itinerary will be handed out to drivers and they will be warned periodically for not to use any other routes unless emergency conditions. • Periodic maintenance will be applied to all traffic and warning signs and they will be renewed when necessary. • Coal will not be transported during the school buses carrying the children on Gomu-Tarlaagzi Village Road and on the rush hours which children getting to /leaving Kazpinari Elemantary School right next to Amasra-Bartın Road. • A school crossing sign will be placed earlier on Kazpinari Elementary School. All vehicles will lower their limits prior to that point. • Road maintenance will be provided in case of any physical damage occurred as a result of the Project activities. • Weekly transportation schedule will be handed to head of Gomu Village and he will be informed in case of instant changes in the schedule. • Trucks will be covered and any physical condition which may pose risks such as fall-offs or spills will be prevented before leaving the Project site. • Transfer roads will be sprayed with water as necessary (for example using mobile bowsers) to prevent significant dust emissions especially in dry weather conditions. • Drivers will be obliged to have heavy vehicle driver license at least for five years			transported when the school buses carrying the children • Check the all necessary warning signs are placed in proper locations • Check the closest neighborhoods are informed about the weekly transportation schedule • Ensure that trucks are not poses risks associated with the transportation of coal. • Check the heavy vehicle driver licence.
ECOLOGY						
O.15	Flora and Fauna	National legislation IFC PS6 EBRD PR6	Flora: • Since Spoil Dump Site 1, 2 and some part of the waste rock dumpsite close the Shaft-2 are situated in forestry land, A Rehabilitation Project will be prepared in accordance with the "Regulation on Implementation of the 16th Article of the Forestry Law (Official Gazette Date and Number: 30.09.2010/27715) and submitted to the local and regional forestry authorities for the necessary permits. • The reject materials generated by the coal washing facilities and the waste materials generated by the gallery opening activities will be deposited into the spoil dumpsites and waste rock dumpsites, respectively. These dumpsites are needed to be permitted by the Ministry of Environment and	Service Provider(s) of HEMA	Operation phase	• Ensure that A Rehabilitation Project is prepared and in place • Check necessary permits are obtained from local and regional forestry • Check both spoil and waste rock dumpsites are permitted by the Ministry of Environment and Urban Planning

Ref No.	Subject	Relevant requirement	Mitigation measures	Responsible party	Timing	Monitoring and evaluation criteria
			Urban Planning. • Approved transport routes will be used for all vehicles and plants within the Project areas. • Robust, appropriately designed, and long-term biodiversity monitoring and evaluation programme will be implemented within the scope of the Project. • In line with PS 6 provisions, the habitat loss to occur within the Project Areas will be offset through implementation of strict mitigation measures. • Populations of flora species that are of higher sensitivity are enabled to survive within the Project Areas through restoration projects and also outside the Project Areas by seed/tuber collection and plantation. Fauna: • All operation activities of the Project will be in line with the Environmental Law (Law No: 2872), National Parks Law (Law No: 2873), Land Hunting Law (Law No: 4015) and their regulations and also the requirements of CITES Convention and the 6th and 7th Articles of the Bern Convention will be met during the construction and operation phases of the Project			• Ensure that, approved transportation routes are used • Check long-term biodiversity monitoring and evaluation programme is prepared and implemented • Ensure that all operation activities are in line with the national and international standards and legislations
O.16	Marine Ecology	National legislation IFC PS6 EBRD PR6	• Underwater noise and vibration impacts may arise during the operational phase of the project. However, noise and vibration will be temporary and site-specific. • The potential uncontrolled release of untreated wastewater (or such as uncontrolled release of oil, wastewater, waste, coal and coal dust) and by-products of the processes from sources including vessels, conveyor belt, construction site (run-off), tetrapod producing areas (cement run-off), Port, and coal storage yards generated during operation phase of the Project may affect the water quality. • In order to prevent run-off and dust emissions during the construction and operation phases, raw material storage areas will be covered or enclosed; water suppression will be used on raw materials except hygroscopic materials like grains or cement. • All operation activities of the Project will be in line with the Environmental Law (Law No: 2872), National Parks Law (Law No: 2873), Land Hunting Law (Law No: 4015) and their regulations and also the requirements of CITES Convention and the 6th and 7th Articles of the Bern Convention will be met during the construction and operation phases of the Project. The necessary permit will be obtained from the Ministry of Agriculture, Food and Livestock pursuant to the Aquatic Products Law (Law No: 1380).	Service Provider(s) of HEMA	Operation phase	• Check that surface run-off, potential discharges are controlled through covered storage areas and water suppression • Ensure that operational activities are in line with the national and international standards and legislations • Check necessary permits are obtained from relevant authorities • Check, all necessary cautions are taken in case of accident • Check, no liquid and solid waste discharges exceed receiving

Ref No.	Subject	Relevant requirement	Mitigation measures	Responsible party	Timing	Monitoring and evaluation criteria
			• In case of an accident, fire or leakage, coal shipping will be stopped immediately and necessary action(s) will be taken in coordination with the ship management and coastal guard units as soon as possible. • Project activities to be carried out in the marine environment will be executed according to the 7th Article of Changes in Production Areas section (amendment by law no. 3288) of the Fisheries Act and following the opinion of the Ministry of Agriculture, Food and Livestock. In addition, it is reported that no liquid and solid waste discharges will exceed receiving environment and wastewater discharge limits.			environment and wastewater discharge limits stated by Ministry of Agriculture, Food and Livestock.
SOCIO-ECONOMY						
O.17	Economy and employment	IFC PS2 EBRD PR2	• Recruitment procedures will be in line with Project Owners Human Resources Policy that is to be developed for the Project. This will include the aim to provide opportunities for employment of local workforce to the extent possible considering unskilled, semi-skilled and skilled workforce. • The Project will seek to maximize the benefits from the Project to local communities in terms of direct and indirect employment, and purchasing of local good and services during operational phase of the Project. • The contractor should be required to adhere to policies and codes of conduct concerning employment and workforce behavior. Measures to be incorporated into these policies in order to reduce or avoid socio-economic impacts are: • Ensure that the workers camp and construction areas are open only to formal employees; • Develop and implement strict code of conduct for workers to regulate behavior in the local communities including road safety.	Service Provider(s) of HEMA	Operation phase	• Check relevant records with regard to local employment and local purchasing policies • Ensure that workers camp and construction areas are only open to formal employees • Check whether strict code of conduct for workers to regulate behavior in the local communities including road safety is in place
O.18	Social environment	IFC PS4 EBRD PR4	• Internal traffic management plan shall be prepared for the transportation of the coal which will comply with all applicable regulations and conditions stipulated in the relevant permit and will be accompanied by appropriate safety vehicles. • Anchoring areas will be defined by the HEMA Port Authority in order to prevent the big vessels to hinder the fishing activities. • The contractor should be required to adhere to an Environment and Social Management Plan. Measures to be incorporated into this plan are; • Improve quality of roads being used by the project. • Establish a grievance mechanism in order to resolve the complaints in a just, efficient and timely manner.	Service Provider(s) of HEMA	Operation phase	• Ensure that Internal Traffic Management Plan is in place and implemented • Check that anchoring areas are well identified by HEMA Port Authority • Checked that Environmental and Social Management Plan

Ref No.	Subject	Relevant requirement	Mitigation measures	Responsible party	Timing	Monitoring and evaluation criteria
			• Inform the local communities of employment and procurement opportunities to keep public sensitization alive throughout the project implementation stages.			is prepared and implemented
COMMUNITY HEALTH AND SAFETY						
O.19	Community health, safety and security (general)	IFC PS4 EBRD PR4	• A Community Health and Safety Management Plan will be developed and implemented to manage risks and impacts to the community. This plan will include measures to address the identified risks and ensure the disclosure of relevant Project-related information to enable the affected communities to understand the risks and impacts. • The risks and impacts of the Project, in the context of communication and social management practices with local community will be managed through a Social Management Plan; including Stakeholder Engagement, Human Resources and Employment, Land Use Management to be developed and implemented by HEMA. • All employees will be trained on health and safety, and an Emergency Preparedness and Response Plan to be prepared in accordance with the guidance of APELL Technical Report. • All relevant health and safety regulations will be followed during the development of the Project in order to minimize accidents that may have impacts on the community and to control potential Project related releases and/or emissions. • Necessary appeals will be made to governmental authorities in order to provide the enhancement and improvement of health facilities in the region for the expected population increase. • Any adverse risks and impacts will be disclosed to the community and engagement with affected communities and agencies will be ensured by HEMA. • All relevant mitigation measures described for the operation phase will be implemented. • A grievance management system will be in place that will enable the community to raise concerns during the lifetime of the Project.	Service Provider(s) of HEMA	Operation phase	• Check whether the community is informed about the excess works. • Ensure that the Community Health and Safety Management Plan is in place and implemented • Ensure that the grievances are handled appropriately and in a timely manner • Check records of health and safety training of employees • Check necessary appeals are made to the relevant authorities to enhance the health facilities in the region.
O.20	Air quality and noise impacts on the nearby community	IFC PS4 EBRD PR4	• An Air Quality Control and Monitoring Plan will be prepared and implemented during the operation phase of the Project. • A Noise Control and Monitoring Plan will be set up during the operation phase to measure noise levels at the closest sensitive receptors (closest	Service Provider(s) of HEMA	Operation phase	• Ensure Air Quality Control and Monitoring Plan is in place and implemented

Ref No.	Subject	Relevant requirement	Mitigation measures	Responsible party	Timing	Monitoring and evaluation criteria
			residences from Tarlaagzi and Gomu Villages) for 24 hours.			• Ensure Noise Control and Monitoring Plan is in place and implemented
O.21	Road and marine traffic	IFC PS4 EBRD PR4	• Traffic Management Plan will be implemented to manage the internal and external traffic for the coal transportation that will take into account vehicular traffic, emergency conditions, pedestrian traffic entering, exiting and internal traffic. • Maritime traffic will be managed to effectively identify and correct unsafe conditions. This safety issues should include procedures to regulate the safe movement of vessels within the harbor (including pilotage procedures), protect the general public from dangers arising from marine activities at the harbor, and prevent events that may result in injury to workers, the public, or the environment. • In the context of protection of marine environment, Emergency Preparedness and Response Plan should be prepared for the port that identifies procedures and actions to be applied in case of an emergency according to the intervention levels to be determined based on the risk assessment study.	Service Provider(s) of HEMA	Operation phase	• Ensure that the Traffic Management Plan (for internal and external) is in place and implemented. • Ensure that traffic signs are placed sufficiently. • Ensure Emergency Preparedness and Response Plan is prepared and in place for HEMA Port.
O.22	Exposure to disease	IFC PS4 EBRD PR4	• During the envisaged project operation period of 18 years, labor requirement was determined to be 2,178 people. HEMA intends to recruit this workforce locally to the extent possible and provide appropriate on-site pre-fabricated facilities to those employees who need accommodation. Nevertheless, a certain number of in-migration to the region is inevitable and with this influx of newcomers, relatively isolated communities may be particularly vulnerable to infectious and chronic diseases. • HEMA will attempt to minimize transmission of communicable diseases that may be associated with the influx of temporary or permanent Project labor.	Service Provider(s) of HEMA	Operation phase	• Ensure that HEMA attempt to minimize exposure to disease associated with influx workforce
O.23	Fire Safety	IFC PS4 EBRD PR4 National legislation	Fire safety measures will be taken by performing the following steps at a minimum: • All the project components will be designed and constructed in full compliance with the "Regulation on the Protection of Buildings from Fire" Official Gazette 26735 Date 19.12.2007. • When local standards are not sufficiently detailed and are incomplete, internationally accepted life and fire standards (NFPA standards, IBC Codes and EN standards) will be applied. For this reason, mapping of Turkish	Contractor of HEMA	Operation phase	• Check the document of "Mapping of Turkish Requirements for Fire Safety" • Check third party audit report

Ref No.	Subject	Relevant requirement	Mitigation measures	Responsible party	Timing	Monitoring and evaluation criteria
			requirements for life and fire safety will be conducted in order to identify the insufficient areas and incorporate them into the design based on the international standards. HEMA will demonstrate that the buildings as well as life and fire safety systems and equipment will have been designed and installed appropriately at the facilities. • "Regulation on Protection of Buildings from Fire (Official Gazette Date/Number: 19.12.2007/26735) brings forward detailed requirements for the design and operation of the facilities taken into account fire prevention issues (i.e. fuel load and control of combustibles), means of egress, detection of alarm systems, compartmentalization, fire suppression and control. • A "Fire Safety Plan" shall be prepared in line with the provisions stated in article 5, 6, 7, and 8 of the Occupational Health and Safety Regulation on Mining Works (O.G. number/date: 28770/19.03.2013. According to this regulation, "Fire Safety Plan" shall include detailed information on the fire protection, the detection of fire commencement and spread and actions to be taken against to fire fighting.			
O.24	Security	IFC PS4 EBRD PR4 Best practice National legislation	• HEMA port will not be complied International Ships and Port Facilities Security (ISPS) code and the scope of the Solas agreement (1974) since no international transportation is envisaged for the port. Four security staff is going to work during the port operation. • In mine sites, qualified security personnel should exist to control transport, storage and use of explosives on site. During the construction phases of the project, security personnel will be in place in order to minimize the risk of an incident and to be prepared in case of an emergency, in all units of the facility. According to the Turkish Mining Law No. (3213) and pursuant to the Article 29 "All mining activities shall be stopped in case of determination of dangerous conditions that risks security of life and property".	Service Provider(s) of HEMA	Operation phase	• Check credentials of security staff • Check training records of security staff • Ensure that all necessary cautions are undertaken pursuant to Turkish Mining Law.
O.25	Hazardous materials	IFC PS3/PS4 EBRD PR3/PR4 Best Practice National legislation	All hazardous materials will be separately collected and will be sent to licensed recycling and disposal facilities according to the provisions stated in Hazardous Waste Control Regulation. As a result of this, the risk associated with the hazardous waste is low due to the fact that hazardous waste collection, transport and disposal are common practice that is well regulated by MEUP.	Service Provider(s) of HEMA	Construction phase	• Ensure that Hazardous Materials are collected and disposed according to the Hazardous Waste Control Regulation.

Ref No.	Subject	Relevant requirement	Mitigation measures	Responsible party	Timing	Monitoring and evaluation criteria
LABOR AND WORKING CONDITIONS						
O.26	General	IFC PS1 EBRD PR1 Best Practice	• An ESMS covering operation activities and OHSAS 18001:2007 certificate requirements will be developed.	Service Provider(s) of HEMA	Prior to operation phase	• Ensure relevant personnel is hired for implementation of the ESMS prior to operation • Ensure that site specific environmental and social plan /procedures are approved by the management responsibles • Check monitoring records • Check training/ inspection records
O.27	Human resources (HR)	IFC PS2 EBRD PR2 National legislation	The following measures will be implemented related to recruitment and management of labor: • An HR manager will be appointed to ensure implementation of HR Policy. • Child and forced labor will be prohibited. • Workers will have contracts in place prior to commencement setting out working conditions, terms of employment and EHS responsibilities. • All workers will be insured under Social Security Institution.	HEMA and Service Provider(s) of HEMA	Operation phase	• Ensure implementation of the HR Policy • Check records of personnel files
O.28	Grievances	IFC PS2 EBRD PR2	• A grievance mechanism will be developed for employees and included in the ESMS. Employees will be informed about this mechanism at the time of hiring. • Grievance mechanism will be extended to non-employee workers.	HEMA	Operation phase	• Ensure grievances are managed appropriately • Check relevant records
O.29	Occupational health and safety	IFC PS2 EBRD PR2 National legislation	The following mitigation measures will be applied to manage the health and safety of the employees: • All applicable national health and safety legislation and international regulations (i.e. ILO Code of Practice for Safety and Health in Ports) will be followed. • All the risks of each activity at the project component sites will be identified followed by identification of the appropriate mitigation measures/personal protective equipment.	Service Provider(s) of HEMA	Operation phase	• Ensure implementation of ESMS • Checks records of internal and external audits • Check training records of workers

Ref No.	Subject	Relevant requirement	Mitigation measures	Responsible party	Timing	Monitoring and evaluation criteria
			• Earplugs will be provided to workers dealing with noisy activities. • All employees (including sub-contractors) will be trained on health and safety, and emergency preparedness and response plan to respond timely to the incidents. • Dust emissions will be minimized to the extent possible with the implementation of mitigation measures mentioned under the title Air Quality. • Workers (including sub-contractors) will be provided safety briefings every day before the work starts and provided with necessary personal protective equipment. • Work permits will be required for high risk activities such as working at heights, operation of heavy equipment and similar. • All accidents and incidents will be recorded. • The efficiency of health and safety practices will be monitored through internal and external audits, and corrective actions will be taken if required. • All employees (including sub-contractors) will be trained on health and safety, and EPRP to respond timely to the incidents. • HEMA will develop and implement a detailed management plan to mitigate immediate health and safety hazards on site.			
O.30	Subcontractors and suppliers	IFC PS2 EBRD PR2	• Subcontractors will be required to follow the requirements of IFC PS2 and EBRD PR2 (Labor and Working Conditions). Contracts to be signed with sub-contractors will include EHS requirements.	HEMA and Service Provider(s) of HEMA	Operation phase	• Check contracts of subcontractors in line with Subcontractor Management and Monitoring Plan • Ensure that ESMS includes necessary environmental, health and safety provisions for subcontractors and suppliers