# COMMUNITY HEALTH, SAFETY AND SECURITY MANAGEMENT PLAN

Adriatic Metals - Eastern Mining

September 2021





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This document has been developed/revised as indicated below and described in the revision record on the following page. Please destroy all previous revisions.

Revision	Date	Authors	Reviewed	Pages
Version 1.0	August, 2021	Aida Ahmedovic Almedina Likic	Vildana Mahmutovic	36
Version 2.0	September, 2021	Aida Ahmedovic	Vildana Mahmutovic	34

ISSUED FOR:		Design	х	Construction	х	Operations		Other	
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# 1.0. INTRODUCTION

Eastern Mining d.o.o. is owned and operated by Adriatic Metals PLC and located in Bosnia and Herzegovina (BiH). Eastern Mining d.o.o. is the holder of a concession for exploration and exploitation in Vares (BiH). Since 2017, ADT has been conducting research at several sites in the municipality of Vareš, for the first time since the 1980s. The company's focus is on exploring minerals that have the potential to grow the company. The ultimate goal is to revive the mining industry in the municipality of Vares, by exploiting new and existing ore deposits. New potentials have been identified in Rupice, where research and exploitation of lead, zinc and barite have been carried out before. The deposits were further expanded and subjected to extensive research and contained significant amounts of lead, zinc, silver, gold, copper and barite. The project, named Vares Project is polymetallic mine, and has attracted reputable foreign investors in BiH. In many ways, this research project is unique in post-war BiH, both in terms of investment size and development potential.

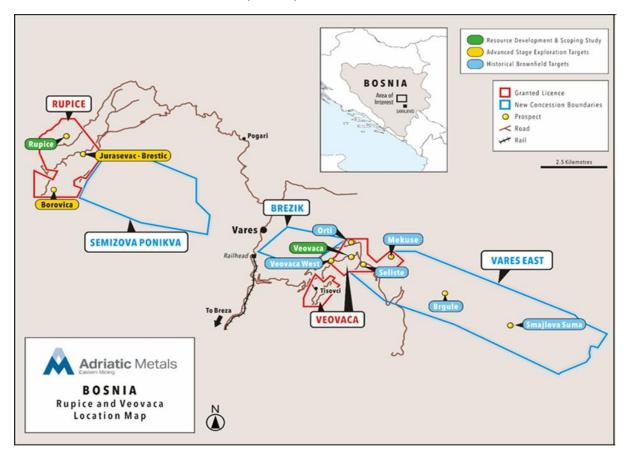


Figure 1 Map showing the location of the Vares Project

The Vares municipality is geographically located in the area of Zenica - Doboj Canton as an administrative unit within the administrative and political system of Bosnia and Herzegovina within the entity of the Federation of Bosnia and Herzegovina. As one of the twelve municipalities/cities within Zenica - Doboj Canton, the entire administrative and technical



centre, which includes health insurance, secondary and tertiary health care and environmental issues, is related to the City of Zenica as the capital of this canton. The Vares municipality covers 390.1 km<sup>2</sup> with an estimated population of over 8,000. The geographical location of the Vares municipality includes road transport that connects it with three major centres within Bosnia and Herzegovina, within 100 km: Sarajevo, Tuzla and Zenica.

During the development of the baseline study, factors that may affect community health (public health) and safety were identified:

- Increased risk of traffic accidents, i.e., traffic injuries, especially on the haulage route in the northern part of Vares, at crossings and use of the main road;
- Environmental impacts on human health, in terms of air pollution and release of certain particles into the air as well as the effects of noise that will be the result of work activities;
- Potentially high levels of thallium and mercury in metallurgical testwork and potential pathways that could potentially contaminate water sources during project implementation.

# 2.0. PURPOSE

Eastern Mining has developed this plan to describe future actions to manage potential risks and impacts related to community health and safety. These risks and impacts will be managed throughout the Project, and in particular during construction.

The primary purpose of the Community Health, Safety and Security Management Plan is to:

- Identify possible health and safety risks in the communities affected by the Project, which have been addressed as part of the ESIA process;
- Implement mitigation measures for the identified impacts;
- Develop a plan and program for monitoring the identified risks and to respond to the identified risks in accordance with the guidelines of the legislation of Bosnia and Herzegovina and the best international standards;
- Provide a safe environment for community members, including vulnerable groups;
- Define the scope of the Management Plan, including the roles and responsibilities for its implementation;
- Establish continuous cooperation with the community and other participants with the aim of mitigating health and social conflicts in the community;
- Develop effective relationships with health care providers and work to improve their ability to respond to health risks and community needs.

In order for the Plan to be effective, it is necessary to ensure the implementation of targeted risk reduction prevention programs, with the implementation of effective monitoring and



evaluation programs. The Community Health, Safety and Security Management Plan will apply to all activities undertaken during the construction, operation and closure of the Project.

This plan is in correlation with following management plans:

- Noise and vibrations management plan;
- Air quality and GHG management plan;
- Emergency preparedness and response management plan and
- Traffic management plan.

# 3.0 RELEVANT LEGISLATION

Eastern Mining will comply, as before, with all applicable laws and regulations concerning human health and community health. Given the political-administrative order of Bosnia and Herzegovina, certain legal elements are transferred from the competence of the entities to the competence of the canton and are applied with the same rights.

There are laws that directly affect people's health:

- Law on Healthcare ("Official Gazette of the FBiH", no. 46/10 and 75/13)
- Law on Protection of the Population from Infectious Diseases ("Official Gazette of the FBiH", no. 29/05)
- Law on Radiation and Nuclear Safety in Bosnia and Herzegovina ("Official Gazette of BiH", no. 88/07)
- Law on Waste Management ("Official Gazette of the FBiH", no. 33/03)
- Law on the Environmental Protection Fund of the Federation of BiH ("Official Gazette of the FBiH", no. 33/03)
- Law on Environmental Protection of Zenica Doboj Canton ("Official Gazette of the FBiH", no. 1/00)
- Law on Noise Protection of Zenica Doboj Canton ( "Official Gazette of the FBiH", no. 1/14)

These legal acts directly affect the regulations concerning human health and community health, along with the accompanying acts which prescribe the legal regulations in more detail.

The legal elements that indirectly affect the preservation of human health are:

- Law on Nature Protection ("Official Gazette of the FBiH", no. 66/13)
- Law on Water ("Official Gazette of the FBiH", no. 70/06)
- Law on Spatial Planning and Land Use at the level of the Federation of Bosnia and Herzegovina ("Official Gazette of the FBiH", no. 2/06, 72/07, 32/08, 4/10, 13/10 and 45/10)



- Decree on the designation of works and buildings for which the Federal Ministry of Spatial Planning issues an urban permit and/or location information ("Official Gazette of the FBiH", no. 32/14)
- Decree on plants and facilities for which an environmental impact assessment must be performed and plants and facilities that can be built only with an environmental permit ("Official Gazette of the FBiH, no. 19/04)
- Decree on the content, order of preparation, components and manner of preparation of mining projects ("Official Gazette of the FBiH", no. 53/12)
- Decision on conversion of forest land into construction land ("Official Gazette of the FBiH", no. 108/12)
- Law on Forests ("Official Gazette of the Zenica Doboj canton", no. 8/13 and 1/15)

# 3.1. International Finance Institutions Requirements

Eastern Mining has followed in its work so far and will continue to follow the International Standards set by the European Bank for Reconstruction and Development (EBRD) and the International Finance Corporation (IFC).

# 3.1.1. EBRD Performance Requirement 4 - Health and Safety

Performance Requirement 4 states the client's obligation to identify, avoid or minimize risks and adverse impacts on the health, safety and protection of the local community that may arise due to Project activities. This performance requirement (PR) recognizes the importance of avoiding or mitigating the negative impacts of project activities on the health and safety of workers, project-affected communities and consumers. While recognizing the role of relevant authorities in protecting and promoting the health and safety of the population, the client has a obligation to identify, avoid, minimize or mitigate risks and adverse effects on the health and safety of affected communities that may arise from the project.

### Community Health and Safety

The client will identify and assess the risks associated with the project and the negative impacts on the health and safety of potentially affected communities and will develop protection, prevention and mitigation measures that are proportionate to the impacts and risks and appropriate to the phase, size and nature of the project.

The client will cooperate with relevant authorities and other stakeholders, as appropriate, regarding mitigation plans and measures.

Measures to avoid or mitigate the impact on community health and safety, which come from the project, may be the responsibility of the relevant public authorities. In such cases, the



client will explain his role and responsibility in informing and cooperating with the relevant authorities.

3.1.2 International Finance Corporation (IFC) – Performance Standard 4: Community Health, Safety and Security

Performance standards are client-oriented, providing guidelines for identifying risks and impacts, and are designed to help avoid, mitigate, and manage risks and impacts as a way of management in a sustainable manner.

Performance standard 4 recognizes that project activities, equipment and infrastructure can increase a community's exposure to risks and impacts. While acknowledging the role of public authorities in health promotion, this standard addresses the client's responsibility to avoid or reduce the risks and impacts to community health, safety and security that may arise from project-related activities, with special attention to vulnerable groups.

While recognizing the role of public institutions in promoting community health and safety, this standard addresses the client's responsibility to avoid or reduce the risks and impacts to community health, safety, and security that may arise from the project.

ROLES	RESPONSIBILITIES
Executive Director	Ensure adequate resources are provided for
	implementation of this Plan.
	Ensure the Plan is distributed to all relevant
	Contractors and subcontractors.
	<ul> <li>Monitoring of the implementation of the</li> </ul>
	Community Health, Safety and Security
	Management Plan
Environmental and Social	Monitoring and reviewing the implementation of
Manager	the Community Health, Safety and Security
	Management Plan
	Active participation and management of
	communication with local communities on
	community health and safety
Occupational Safety Manager	Manages a system to identify potential risks to
	community health and safety
	Develops and coordinates the system of prevention
	and establishment of measures to prevent and

# 4.0 ROLES AND RESPONSIBILITIES



	mitigate negative effects on community health and
	safety
	<ul> <li>Develops a prevention program to combat the</li> </ul>
	occurrence of incidents that reflect on the
	community health and safety
	<ul> <li>Provides training and education on safety</li> </ul>
	principles to company employees in order to
	prevent negative effects on community health and
	safety
	<ul> <li>Participates in all meetings with the local</li> </ul>
	community on community health and safety
Coordinator for Social	Resolving complaints related to community health
Management	and safety
	Informing and involving the local community in the
	process of resolving complaints related to the
	protection of community health and safety
	<ul> <li>Participation in all meetings with the local</li> </ul>
	community on community health and safety
Eastern Mining empolyees	Introduction of the Community Health, Safety and
	Security Management Plan and respecting all
	adopted procedures and procedures regarding the
	protection of it
Contractors	Respect and adherence to all procedures required
	by the Community Health, Safety and Security
	Management Plan

# 5.0. COMMUNITY HEALTH, SAFETY AND SECURITY MANAGEMENT PLAN

The Community Health, Safety and Security Management Plan aims to define future actions to manage potential risks and impacts related to community health and safety. These risks and impacts will be managed throughout the Project, and in particular during construction.

The Bosnian war resulted in socioeconomic losses for the people of BiH, and in doing so created health linked concerns, particularly involving increased drug and alcohol use and post-traumatic stress disorder (PTSD). Non-communicable diseases caused the most deaths in BiH from 2009 to 2019. Injuries, and communicable, maternal, neonatal, and nutritional diseases were not in the top 10 causes of deaths. In 2019, the five largest causes of death across BiH were Ischemic heart disease, stroke, lung cancer, diabetes, and colorectal cancer, these had all increased from the last decade. Deaths caused by heart disease had the largest increase of 16.3%. Similar to the results of the HIA report, the latest official data from the Municipality of



Vareš showed that the leading cause of mortality is cardiovascular disease, including among the working population and the elderly.

The BiH healthcare system provides free access to healthcare for the public. In the FBiH, health care is decentralised and as such organised at the Canton level. The RS has a centralised health care system. As with all cantons in the FBiH, Zenica-Doboj has an independent Minister of Health.

The following table presents the key Project activities that are likely to interact with and potentially impact existing social receptors.

Table 0.1: Project activities and potential impacts						
Project Activity	Impact Pathway	Receptor	Impact Description			
Socioeconomic Impacts						
Construction: Project			SE01 - Project-induced population immigration			
announcement and start of construction activities Operation: Operational	The Project announcement could generate expectations of economic opportunities.	Economically active population Direct and indirect communities	Influx of local, regional, and international workforce, as well as unemployed population, may occur throughout different Project stages, increasing demand of local services, straining their access / availability, and potentially increasing tensions with			
Activities			local communities.			
Construction: erecting of site fencing and start of heavy vehicle use Operations: Restricted access to working areas Closure: Restricted access until closure activities complete	Public access to the construction site will be limited by a perimeter fence and security booths. Project vehicles will use local roads.	Direct and indirect communities	SE02 – Reduction of public access The Project site will not be accessible to local public who may have used it previously (e.g. to traverse to other locations or for recreational hunting purposes). Includes reduction of access to informal swimming activities in the historic iron ore pit around which the haul road transport route is planned.			



Project ActivityImpact PathwayReceptorImpact DescriptionConstructionSecurity guardsDirectand Operation:SE03 - Presence of security guardsand Operation:will be postedDirectandSecurity personnel may interact withUse of securityin the Projectindirectlocal communitiesSecurity personnel may interact withuse of securityentrances.DuringcommunitiesSecurity personnel may interact withconstruction:buringconstruction ativities, heavyLocalroadVehicle use andworkforcecommunitiesDirectandvehiclesand workforcecommunitiesDirectandvehiclesworkforcecommunitiesDirectandvehiclesuse existingDirectandHeavy vehicle use can deteriorate andnoreasedpopulation andworkforceDirectandvehicleworkforcecommunitiesSE05 - Increased trafficconstruction:noreasedLocalroadIncreasedpopulation andvehicles onDirectvehicleuseDirectanduoreaseusers,Directandhaul route.vehicles onDirectandincreasedindirectcommunitiesservices in the area.noreasedindirectcommunitiesservices in the area.for local soutionativities willrequire208noreasedconstructionactiviti	Table 0.1: Project activities and potential impacts				
and Operation: Use of security personnel on sitewill be posted in the Project site to secure entrances.Direct and indirect communitiesSecurity personnel may interact with local communities and the potential use of excessive or disproportionate force may occur.Construction: Start of heavy vehicles and workforce vehiclesDuring construction activities, heavy vehicles and workforce to ads until a new road is built.Local road users, Direct and indirect communitiesSE04 - Deterioration of existing public roads and increased traffic Heavy vehicle use can deteriorate and damage existing roads. Their use will increase traffic and transport time for local land users.Construction: Increased population and vehicle use duringMulti-use haul route and toreased users, Direct and indirect to ads new road is built.SE05 - Increased traffic Heavy vehicle use of private vehicles can strain traffic loads, decrease availability of parking spaces and increased costs of vehicle-related services in the area.Construction of haul route.Multi-use haul route and users, vehicles on toreased indirect toreased indirectSE06 - Increased traffic toreased economic opportunitiesConstruction activities will activities will activities will population, activities will activities will population, activities will activities will population, activities will population, activities will population, activities will population, activities will population, activities will population, activities will population, activities will population, activities will p	Project Activity	Impact Pathway	Receptor	Impact Description	
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may incentivise young adults and				may incentivise young adults and	



Table 0.1: Project activities and potential impacts				
Project Activity	Impact Pathway	Receptor	Impact Description	
			sectors of the economically active population that had previously left in search of jobs to return to the Project area.	
Operation and procurement	New workers are anticipated to work at the Project site. Project will require additional procurement of goods and services.	Project workforce, Economically active population	SE07 – Diversification of economic opportunities New direct and indirect jobs will be required during the mine operation, leading to a higher demand for skilled staff. As job transition occurs, the job sector might diversify, and local supply chain could become more specialised.	
Construction, operation and closure	Payment of taxes and royalties	National, cantonal and Local governments, Economically active population, General local businesses, Direct communities	SE08 – Macroeconomics Positive impact from project royalties and taxes that will be paid at the state and cantonal level, and then distributed to the municipality level. Further economic impacts from Project, employee and contractor expenditures and employee tax contributions.	
Construction: Project announcement and construction activities Operation: Ongoing Project activities	Project activities will be undertaken in an area with historical mining activities and underutilised infrastructure.	Economically active population, General local businesses, Direct communities	SE09 – Increased shared value and sense of place The return of population, particularly those of working age, to the area and the reinvigoration of mining activities could have non-monetary beneficial effects. For example, the rehabilitation of unused infrastructure, restoration of shared community values (esteemed professions) and the continuation of a mining tradition which could reinforce community cohesion.	



Table 0.1: Projec	Table 0.1: Project activities and potential impacts				
Project Activity	Impact Pathway	Receptor	Impact Description		
Operation: Use of newly constructed haul road	A new, unlit road will be built as an alternative road with public access.	Land road users, Local businesses	SE10 – Increased public infrastructure Road construction and road improvement activities will benefit local road users, decreasing traffic on existing roads and increasing access routes.		
Mine closure	Workers will be laid-off progressively as operations cease.	Project workforce Direct communities Local businesses	SE11 – Job losses Workforce and staff members will be progressively laid-off as mine shuts operations. Economic dependency on mine activities may result in economic losses for local businesses and communities		
Post-closure Rehabilitation	Rehabilitated areas and reuse for industrial facilities	Direct communities Local businesses	SE12 – Disruption of place-based attachment Potential unemployment, job transitions and the rehabilitation of Project areas and associated facilities may disrupt the sense of belonging for the community and increase the need for local businesses to diversify their sectoral services.		

Table 1 Project activities and potential impacts

Potential effects identified during the impact assessment phase are included below.

Community Healt	Community Health, Safety and Humans Rights Impacts						
Project Activity	Impact Pathway	Receptor	Impact Description				
Construction: Project announcement and construction activities	Workers will be accommodated in, and commute from, local communities.	Project workforce, Direct and indirect communities	CHR01 – Increase in communicable diseases Workforce interactions could occur with local communities, potentially resulting in increased rates of communicable diseases such as Sexually Transmitted Infections				
Operation:			(STIs), respiratory diseases and epidemics (COVID-19).				



Operational activities			
Construction: Project announcement and construction Activities Operation: Operational activities	Changes in consumption habits based on increased income.	Project workforce, Direct and indirect communities	CHR02 – Increase in non- communicable diseases Changes in habits affecting health performance (alcohol, smoking, drugs) and exacerbating risks of non-communicable diseases (hypertension, diabetes, strokes, cancer, among others).
Construction and Operational activities	Hiring practices and income gaps may result in unequal benefits. May affect working environment.	Project workforce, Direct communities, Local organisations	CHR03 – Inequity and potential contribution to existing human rights issues Potential biases in work and labour practices could limit the Project's ability to respect rights of minorities, freedom of movement, protection of the child, health, equality before the law and non- discrimination, as well as labour rights (e.g., freedom of association, child labour, forced labour).
Construction and Operational activities	Greater expendable income in existing households, change in consumption, and influx of workers	Project workforce, Direct communities, Local organisations	CHR04 – Exacerbated conditions for GBVH Paired with a population influx, greater expendable income and consumption of alcohol are linked to increased cases of domestic violence and GBVH.
Construction: earth works, storage of topsoils. Operation: ore extraction and	Different environmental impacts felt by social receptors.	Project workforce, Direct communities	CHR05 – Increased community exposure to pollution Project workforce and community members may be exposed to potential air emissions, water and soil contamination, and hazardous



waste			substances, decreasing community
management			health and safety conditions.
Construction	Security guards		CHR06 – Security Conflict
and Operation:	will be posted in	Direct and	Security personnel may interact with
Use of security	the Project site	indirect	local communities and the potential
personnel on	to secure	communities	use of excessive or disproportionate
site	entrances.		force may occur.
			CHR07 – Increased Road Traffic
	Multi-use haul		Accidents
	route and	Local road	Increased traffic and the dual use of
Construction	increased	users, direct	the haul route will lead to an
and operational	vehicles on	and indirect	increased risk of road traffic
phases	existing roads	communities	accidents. A higher population will
	due to in	communities	inevitably lead to more pedestrians
	migration.		posing greater risk to increased
			accidents.
		Direct	CHR08 – Impact to local health
		communities,	services
		indirect	An increased population and
Construction	Limited health	communities	potential for mining related
and Operation	facilities	and	activities will lead to an increased
	lacinties	employees	strain on the already limited health
		and their	care facilities in Vares.
		families and	
		dependents.	

Table 2 Community Health, Safety and Humans Rights Impacts

# 5.1. CHR01 – Increase in communicable diseases

The influx of migrant workers, directly or indirectly related to the Project, has the potential to further increase exposure to communicable diseases, such as STIs, respiratory diseases, and exacerbating epidemics. This could occur through the use of local commerce and services by the Project workforce and through other uncontrolled interactions between the workforce and community members.

The following communicable diseases could be increased:

- Respiratory diseases related to housing acute respiratory infections, pneumonia, tuberculosis, meningitis; and
- Sexual and reproductive health diseases HIV/AIDS, other STDs, unplanned pregnancies.



Interviewees in the local health centres reported that STDs, HIV and respiratory diseases are minimal in the area. However, the increase in population and uncontrolled interactions could increase these cases.

This impact will be adverse, will have a medium-term duration during the construction and operation stages and its spatial extent could reach local levels. Therefore, this impact has a low magnitude. The social receptor, project workforce and indirect communities have a low sensitivity, and direct communities have a medium sensitivity, resulting in a minor significance for all receptors. No additional measures will be required, assuming the implementation of the Health and Safety Policy and workers' code of conduct, keeping this impact as minor adverse.

Identification of potential factors that can lead to a certain level of impact on human health such as:

- Occurrence of certain vector diseases that come with an increased number of staff in the area where the carriers of these diseases live;
- Occurrence of pandemic / epidemic cases such as COVID 19. These factors may occur, but are addressed in accordance with the legal regulatory framework at the level of Zenica - Doboj Canton, the Federation of Bosnia and Herzegovina and Bosnia and Herzegovina.

## 5.1.1. COVID-19

Since 2020, the Coronavirus (COVID-19) pandemic has presented a high OHS risk to workers, specifically for workers at project sites and the community members with whom workers may come into contact. The following examples show the type of measures that should be followed to mitigate the potential spread of COVID-19:

- Follow public authorities' guidance regarding prevention measures;
- Work shifts should be split to avoid large numbers of staff working together;
- Peak times in shared use areas should be split;
- Personal protection equipment (PPE) should be provided, including hand sanitizers and masks for all personnel and visitors;
- Temperatures should be taken periodically and, if applicable, staff should be provided with disposable plates and forks to avoid using common utensils;
- Suspected COVID-19 cases should be quarantined for 14 days and taken to the nearest hospital, if required, until they have been cleared after testing or otherwise taken into public healthcare;
- Adriatic Metals should develop an emergency response team comprised of managers for quick decision-making processes;



- Medical awareness campaigns should be provided to the workforce in all the applicable languages; and
- Project risk assessment must consider COVID-19 exposure on the construction site and during Project operation.

Adriatic Metals continue, in close consultation with the local municipal and medical authorities, to monitor the C-19 situation. Guidance and training have been given to all staff and suitable sanitisation and protective equipment have been provided at all workplaces. As a further form of prevention and protection, the company conducts testing of all employees for C-19 twice a month.

Identified health risks	Indicators	Monitoring and prevention measures
Considering that staff from "third" countries and changes in cultural and ethnological terms, the high risk of introduction of foreign and non-specific diseases cannot be identified. The number of foreign experts to be involved in the process has not been identified as a threat to human health; Considering the increase in the number of employees and the working age	Number of occupational diseases, number of occupational injuries, number of registered incidents at work that resulted in injury.	Development of an employee health care plan in cooperation with subcontractors who take care of the health of the working age population with a specific emphasis on the protection of employees in this part of industry; Development of an action plan of emergencies and conditions caused by accidents at work; Creating an action plan in accordance with the
population in the field of project actions, and the nature of the industry itself, a greater number of traumas can be expected, as		occurrence of epidemics and pandemics such as Covid- 19, other viral diseases, infections, etc.
well as an increase in non- specific diseases, to an increase in occupational diseases;		Connecting with key stakeholders involved in preserving the health of workers;
		Forming a team (independently or in collaboration) to respond to an accident in the industry;



Continuous monitoring of
the occurrence of specific
diseases in cooperation with
the competent institutions.

Section	Potential impact on human health	Care/mitigation management plan
Infectious diseases associated with overcrowding and poor hygienic and epidemiological conditions - acute respiratory infections (bacterial and viral), pneumonia, tuberculosis, the impact of hygienic - epidemiological conditions on respiratory diseases, immunization coverage	Since there will be no large migration of the population, the risks of developing respiratory infections such as TB and the like are very small.	Given that local public health is very well organized and that the existing health institution offers periodic preventive examinations of employees within the occupational medicine service, it is necessary to make contact and make a plan for cooperation and timely examination of employees.
		Due to the outbreak of the epidemic and the spread of diseases that have a respiratory character within the company and have an external impact, it is necessary to follow the protocols of the competent legislative structures in these processes.
Vector of communicable diseases such as Covid,tick- borne diseases, and other zoonoses	The type of work that will be done by itself carries an increased risk of developing these diseases. Since myrcolocation has no reported diseases such as malaria or different types of hemorrhagic fevers, there is not much risk here.	In cooperation with the local competent authorities in charge of maintaining hygienic and sanitary measures, make a maintenance plan and periodization of its implementation. Follow the reports of institutions dealing with the

Table 3 Overview of identified potential risks



Section	Potential impact on human health	Care/mitigation management plan
	The risk of tick-borne diseases can be considered very low.	monitoring of these diseases and react accordingly.
	The project will not develop any direct or indirect impacts with disease transmission.	
Diseases related to soil, water and general sanitation	According to the available data and the initiation of operations at the Veovaca and Rupice sites, changes in soil and water quality may occur. However, taken into consideration the information presented in the original project and the presentation of activities this risk is low moderate. The occurrence of the disease due to poor sanitary and hygienic conditions represents a very low risk considering the application of best practices and standards in construction.	Although a plan already exists, it is necessary to continuously monitor the occurrence of various elements that can lead to the occurrence of diseases caused by these factors. Although there are no written traces or information about specific diseases caused by high amounts of mercury or thallium in the soil, it is necessary to develop a plan for monitoring the value of these elements during the process of implementing activities in this project.
	Since the project itself will use certain amounts of water in its process by applying high standards the risks will be eliminated.	
	Given that there is not a large number of workers and the development of camps / settlements for the same project has no impact on diseases that can occur due to poor sanitation of the local community.	



Section	Potential impact on human health	Care/mitigation management plan
Sexually transmitted diseases - HIV / AIDS, syphilis, gonorrhea, hepatitis B	Considering that there will be no high increase in the population in the Vares municipality or large migrations of staff, the risk of sexually transmitted diseases is very low, ie. negligible, and the project has no impact on the increased number of these diseases.	Develop a plan and collaboration with local health stakeholders that will enable periodic examinations and employee training.

Table 4 Overview of potential elements that may have an impact on the health of the population

# 5.2. CHR02 – Increase in non-communicable diseases

Changes in habits affecting health, induced by increased income and economic dynamism in the area, could exacerbate non-communicable diseases such as hypertension, diabetes, stroke and cancer. Individual factors affecting health determinants include household and workers' habits of alcohol, tobacco, and drug use, in addition to eating habits. In 2019, the five largest causes of death across BiH were ischemic heart disease, stroke, lung cancer, diabetes, and colorectal cancer, which had increased from the last decade. Deaths caused by heart disease had the largest increase of 16.3%. Within the Zenica Doboj Canton the leading diseases are heart and blood vessel diseases (51%), including heart failure, acute heart attack and strokes. Fibrosis and cirrhosis of the liver are the leading causes of death from diseases of the digestive system. These liver diseases are often linked to hepatitis B or C, and heavy drinking, with the potential to advance to liver cancer. In the area, elderly adults were reported as being afflicted with chronic conditions like heart disease, cancer, and diabetes. Mental health problems are also reported as increasing due to stress and the standard of living in the area.

This impact will be adverse, will have a long-term duration during the construction and operation stages and its spatial extent could reach regional levels. This impact has a medium magnitude. The social receptor, Project workforce and indirect communities have a low sensitivity, and direct communities have a medium sensitivity. The impact has a minor significance for the former two, and a moderate significance for the latter. After additional mitigation measures have been applied, such as the development of a Community Health, Safety and Security Management Plan with a focus on cardiovascular, respiratory and digestive diseases linked to consumption habits. Additionally, relevant environmental management



policies referring to the management of substances potentially harmful to human health, such as management plans for air quality, noise, and water. This adverse effect will be reduced to minor adverse.

Identification of potential factors that can lead to a certain level of impact on human health such as:

- Unhealthy lifestyles due to the larger inflow of funds into the local community, and employees are causally and consequently related to each other. This factor can be eliminated by conducting educational and promotional activities in cooperation with the local community.
- Morbidity of chronic non-infectious diseases, which is not directly related to the existence of the Project. The morbidity and mortality of chronic non-infectious diseases is causally related to the demographic / age structure of the population in the observed area, with the infrastructure of the health system and access to health services of remote rural areas (such as areas around mine sites) and other sources of air, water and soil pollution on the micro and macro regions of the observed space.

	Potential impact on human health	Care/mitigation management plan
diseases - eg. anemia, e avitaminosis, food poisoning, if etc b T S fu n a is S fu n a is S S l k H H n n a is S S I k H H T T T	The nutrition of the employees in the project itself is not clearly shown because it represents the next phase of the project. The sector of providing services in the process of food production and marketing, both individually and within large collectives, is extremely well resolved by sanitary-inspection- legislative regulations. However, there is a low moderate risk of the occurrence and occurrence of these diseases that are not directly caused by the project or project activities. The project will not use arable land currently used	The key plan and strategy is to comply with local community legislation in this process.



Section	Potential impact on human	Care/mitigation
	health	management plan
	for food production and will	
	not have any impact on the	
	development of these	
	diseases.	
Non-communicable chronic	Chronic non-communicable	The goal of mitigating this
diseases - hypertension,	diseases are extremely	risk is to cooperate with the
diabetes, CVI, CVD disorders	important and regardless of	local community in order to
	the nature of the project,	create conditions for the
	they always pose a low	prevention of these diseases,
	moderate risk of impact on	as well as to monitor the
	the local community,	factors that can lead to
	because with the	them, such as dust or noise.
	development of the project,	Focusing on the project
	the income of the local	itself, to achieve cooperation
	community increases and	with local stakeholders who
	thus bad lifestyles.	have the opportunity to
		periodically monitor and
		prevent the occurrence of
		these diseases, such as the
		service for occupational
		medicine of the Vares Health
		Centre.

Table 5 Overview of potential elements that may have an impact on the health of thepopulation

# 5.4. CHR04 – Exacerbated conditions for GBVH

An increase in people associated directly or indirectly with the Project is expected during the construction and operational phases. Most of the expected influx will likely be comprised of men, which could worsen the conditions of OHS (work-based harassment) and can also increase the risk of Gender-Based Violence and Harassment (GBVH) during interactions with local communities from both Eastern Mining employees and construction, mining and haulage contractors.

This impact will be adverse, will have a long-term duration during the construction and operation stages, will be reversible, and its spatial extent could reach regional levels. This impact has a medium magnitude. The social receptors are similar to the previous impact, with a low sensitivity for the Project workforce and medium sensitivity for direct communities and



local organisations, resulting in a minor significance for the former and moderate significance for the latter two. After additional mitigation measures have been applied for the latter two, such as specific anti-GBVH training in accordance with EBRD good practice guidance for addressing GBVH, for the workforce and contractors, and collaboration with local organisations to prevent GBVH, this adverse effect will be reduced to minor adverse.

# 5.5 CHR 05 – Increased community exposure to pollution

Impacts from increased air emissions, noise, water and soil contamination, and potential exposure to hazardous substances are environmental determinants with effects on human health. According to the Project's Health Impact Assessment (HIA) (Appendix 4.13.1), the local population is most concerned about pollution from previous mining activities related to environmental aspects such as soil, watercourses and air (presence of dust and other particles) as well as noise from the pre-existing plant. Soil, water, and waste-related diseases could include diarrhoeal diseases, hepatitis A and E, as well as soil-transmitted helminths (parasitic worms).

Interviewees from the health centres reported that cases of chronic lung and respiratory conditions have been elevated in the past, perceived by local communities to be attributable to the iron foundry as well as previous mining operations. The HIA found that potentially high levels of thallium and mercury, identified in basic tests in sediments in groundwater and soils, could potentially contaminate watercourses during the Project operation. Thallium has been found in the ore at Rupice during geochemical test works, and thallium concentrations, reported within baseline surface water, spring and groundwater samples collected from the Rupice mining concession, have been seen to regularly exceed national Maximum Permissible Concentrations. The HIA described that the accumulation of thallium in the human body can cause adverse effects on the nervous system, organs such as the lungs, heart, and kidney, as well as causing temporary hair loss and vomiting.

Thallium has been identified as part of the natural background geology, and not related to ore-forming geological events. During processing of lead and zinc ores the concentration of thallium within process waters can increase[1]. Spills and accidental discharge of untreated, thallium enriched, process waste waters has the potential to contaminate the underlying groundwater as well as surface watercourses. Chapter 5.7 Hydrology and Hydrogeology impact assessment provides a full assessment of the potential impact from thallium on surface water and ground water receptors. It notes that as there is no clear indication of thallium enriched ores combined with the zero-discharge operation of VPP. Heavy metals, including thallium, amongst others, have the potential to cause an occupational health and safety hazard. Worker exposure in the plant/concentrate handling areas is possible and best practices will be implemented such as installation of ventilation and exhausts, PPE, and GIIP operational practices. The impact of contamination and hence human health impact from heavy metals, including thallium, is expected to be of minor significance.



Further impact assessment for noise, air quality and soils have found that there are no significant impacts to human health from environmental pollution, assuming that the appropriate mitigation is implemented, as defined in the appropriate chapters of this ESIA. To retain the potential for limited impacts mining and haulage contractors will be required to implement an Environmental and Social Management System, in line with EBRD requirements and that adopted by Adriatic Metals.

In summary, this impact will be adverse, will have a long-term duration during the construction, operation and closure stages, and its spatial extent could reach regional levels. Therefore, this impact has a medium magnitude. The social receptor, the Project workforce, has a low sensitivity, and the direct communities have a medium sensitivity, resulting in a minor significance for the former and a moderate significance for the latter. Additional mitigation measures such as the development of the Community Health Safety and Security Management Plan, ongoing environmental monitoring, the implementation of measures included in the HIA, and a thorough human health monitoring programme, could reduce this effect to low adverse. Based on the published results in the Information on population health in the area of Zenica-Doboj Canton from 2018, published by the Institute for Health and Food Safety, key sanitary and hygienic problems in the area of Zenica-Doboj Canton have been identified which can affect each individual municipality in the canton.

These problems/factors are:

1. Lack of public health control of drinking water;

- 2. Poor sanitary and technical condition of local water facilities;
- 3. Insufficient control over the health safety of water from local water bodies;
- 4. High percentage of microbiologically defective drinking water samples from local water bodies;

5. High percentage of microbiologically defective drinking water samples from school water facilities;

6. Incomplete and sanitary-technically defective city sewerage network;

7. Insufficient supervision of public baths;

8. Deficiencies in resolving the issue of maintaining common parts of privatized and nonprivatized residential and commercial buildings, which results in difficulties in resolving current and incidental environmental problems;

9. Lack of municipal and industrial wastewater treatment systems;

10. Non-existence or sanitary-technical malfunction of local facilities for removal of liquid waste materials;

11. Insufficient technical equipment of utility companies, with insufficient number of workers employed in the immediate maintenance of cleanliness of the settlements;

12. Unsatisfactory general hygienic condition of the settlements;

13. Irregular garbage collection from settlements and unresolved issue of garbage collection and final disposal from most rural settlements;



14. Unacceptably poor sanitary and technical condition and location of most solid waste landfills in the area of Zenica-Doboj Canton.

In the group of diseases that develop under the influence of these factors, intestinal early diseases that are directly related to contaminated food, water and contact most often occur and may have the characteristics of an epidemic in large groups.



Identified health risks	Indicators	Monitoring and prevention measures
		microbiological and
		radiological safety);
		Monitoring and detection of
		pollutants in the air and soil;
		Measures of forest
		devastation and land
		degradation, especially in the
		catchment areas of the main
		springs. Make a reforestation
		plan;
		Regular cleaning of
		watercourses from
		sediments that are suitable
		habitats for harmful rodents
		and can be a source of
		dangerous infectious
		diseases for humans and
		animals;
		Rehabilitate sewerage
		networks;
		Monitor supervision in
		cooperation with the
		competent services for
		health ecology;
		Continuous implementation
		of targeted research in order
		to collect accurate data on
		the harmful effects of certain
		environmental risk factors on
		human health;
		Information and education
		plan in schools, for children
		and their parents, on the
		importance and manner of
		reducing the impact of
		harmful environmental
		factors on health in
		cooperation with
		stakeholders;



Identified health risks	Indicators	Monitoring and prevention
		measures
		Strengthening own
		capacities for water health
		testing or cooperation with
		competent laboratories.

Table 6 Overview of identified potential risks

There is a certain road infrastructure at the project site that is already in use. The construction of new access roads that will intersect with local roads and road infrastructure is also planned.

The municipality is well connected by road, from the aspect of health needs the local population is 49.1 km away from the nearest hospital, while the location of the surface mine Veovaca is 9.4 km away from the nearest health institution Health Centre Vares, while the location of the mine Rupice is approx. 21 km from the first medical institution Health Centre Vares.

# 5.6. CHR06 – Security Conflict

Following the fencing of the Project areas, security booths will be installed with a number of security guards present. In addition to fences, security installations could include peripheral and exterior lighting and cameras. Security personnel are assumed to be trained according to Adriatic Metals Human Rights Policy and the Community Health, Safety and Security Management Plan and must be monitored by the Project's security officer.

Security staff will secure the site, monitor site visitors, and assist to direct traffic at access points. Recreational hunters or potential job seekers may have interaction with the Project's security. This interaction may lead to community grievances being raised due to actual or perceived disproportionate use of force.

This impact will be adverse, will have a medium-term duration during the construction and operation stages, will be reversible, and its spatial extent could reach local levels. Therefore, this impact has a low magnitude. The social receptor, direct and indirect communities, have a medium and low sensitivity, respectively, resulting in a minor significance for both receptors. Although no additional mitigation measures will be required, security forces' training on human rights and adherence to the Human Rights Policy, as well as implantation of the grievance mechanism, can reduce this impact to negligible adverse.

### 5.7. CHR07 – Increased road traffic accidents

Increased road traffic (see impact SE05) could lead to a potential increased risk in road traffic accidents and poses a risk to pedestrians in the area. The haul route has been designed to



avoid communities as far as possible, particularly in the stretch from Vareš town to Rupice. Whilst it will be a publicly accessible route, signage will be installed to advise users of the heavy vehicles using the road. A traffic management plan will be developed, limiting haul truck and heavy vehicle drivers to a low-speed limit (30km/h as per the haul route basis of design). Community members will also be encouraged to use the existing and more direct routes between villages. During winter months there may be some who choose to use the haul route as it will be more accessible due to snow clearance.

This impact will be adverse, will have a medium-long term duration throughout the construction and operational stage and its spatial extent reaches local levels. The local road users have a low sensitivity resulting in a minor significance. The implementation of the traffic management plant and employee code of conduct will ensure that this impact remains as minor adverse.

Identified health risk Indicators		Monitoring and prevention
		measures
Increased number of traffic	Number of traffic accidents,	Develop a plan in case of
accidents;	increased number of	traffic accidents that can
Increased number of	traumas, changes in analyzes	lead to more traffic injuries;
traumas caused by traffic	and results of water sources,	Develop a continuous plan
accidents;	in the results of noise	for measuring sediment
Increasing the total number	measurements and	particles in the air in the
of waste particles that affect	measurement of the	project area;
human health (dust, CO, tar,	presence of deposited	Develop a continuous plan
etc);	particles in the air in the area	for measuring the presence
Increasing noise in the area	of Veovaca and Rupice.	of particles that are
of excavated material		dangerous to human health,
transport;		and are in direct relation to
Increased risk of water		increased traffic;
pollution (both drinking		Make contact with the
water sources and local		competent medical
watercourses).		institutions that monitor the
		number of diseases that
		occur with increased
		pollution (eg. respiratory
		diseases);
		Analyze the impact of other
		pollutants on the micro and
		macro region.

Table 7 Overview of identified traffic risks



The inspection of the existing project documentation did not determine the risk of bringing employees from third countries or other countries. The workforce and human resources are based on local employees.

Given the increased volume of work and the number of new employees that will increase with the process of excavation and start of the entire operation, and given the specifics of the profession, it is evident that micro migration will occur in Zenica-Doboj Canton.

Identified health risks	Indicators	Monitoring and prevention
		measures
Increased number of traffic	Number of traffic accidents.	A plan to promote education
accidents;	Number of injuries.	on traffic culture and
Increased number of	Noise values. Dust values.	increase the transport of the
traumas due to traffic		local population that will be
accidents;		directly exposed to this
Increased noise level due to		process;
transport;		Developing internal safety
Increased dust levels during		policies during transport;
transport and transportation;		Adherence to internal
Lack of public transport and		protocols and safety
impossibility of equal access		standards of transportation.
to health care.		

Table 8 Overview of identified potential risks

Section	Potential impact on human	Care/mitigation
	health	management plan
Injuries - traffic trauma and	The project envisages the	The strategy of prevention of
other injuries and trauma	construction of new roads,	this factor and reduction of
	as well as the intersection	its impact can be achieved
	with permanent local and	by applying the best
	regional roads, and as such	practices and the highest
	poses a moderate risk of	standards in this area,
	these injuries.	respecting the necessary
	Given that this is a transport	technical conditions of
	not only in the local	vehicle correctness and
	community but also at the	



	wider community level their	compliance with the will-
	wider community level, this risk needs to be considered.	compliance with the rules during transport. Establish cooperation with local stakeholders who deal with the maintenance and technical correctness of roads as well as their signalization, and part of the roads that are not under the jurisdiction of the company itself.
Veterinary diseases and other	According to the available	Follow the
zoonoses	data in the Vares municipality, no such diseases were reported during 2018, so this risk can be considered a very low risk factor for the impact on the health of the population.	recommendations of relevant stakeholders and comply with preventive measures in accordance with legal acts.
Environmental factors that	Given the location of the	Continuous monitoring and
affect health	civen the location of the project, the local population is at an appropriate distance from the effects of noise and vibration so that there is no impact on these factors. The effect of thallium and mercury accumulation in the project area in groundwater samples may pose a potential risk. There is a possibility of dust as a factor influencing human health together with other pollutants.	<ul> <li>continuous monitoring and measurement of noise and vibration levels as well as air quality.</li> <li>Development of effective communication procedures to transparently present measurement results.</li> <li>By monitoring the results of certain diseases, the factors influencing human health have not been determined.</li> <li>Develop an appropriate system for monitoring the concentration of suspected elements. Continuous monitoring of their concentrations.</li> <li>Air quality monitoring together with the program of assessment of possible risks to human health as well</li> </ul>



		as prevention of disease development.	
Social factors influencing	The municipality of Vares is	Cooperation with the	
health: social cohesion,	one of the least developed	environment, stakeholders	
lifestyles, well-being	municipalities in Zenica-	and other NGO sector that	
	Doboj Canton, social styles	can have an impact on this	
	have a high risk to the health		
	of individuals from the	Development and support of	
	municipality. According to	lifestyle improvement	
	the projected and available	programs.	
	data, this project does not		
	have a negative impact on		
	the social factors of the		
	environment, on the		
	contrary, it should have a		
	positive impact with raising		
	welfare and strengthening		
	lifestyles.		
Traditional medicine	Data on the existence of	No information is available	
	traditional treatment are	on the official connection	
	mostly related to the	with the official bodies.	
	collection of medicinal	According to the data of the	
	herbs in the process of	population survey from the	
	traditional treatment for the	area of Veovaca and Rupice,	
	preparation of teas,	the local population of both	
	beverages and other types	localities pays special	
	of medicines. Given that the	attention to picking	
	geographical location is	medicinal herbs and	
	suitable for the collection of	consuming them in the	
	medicinal plants and comes	treatment of some ailments	
	into close contact with the	or disease prevention.	
	locations of the project,	In cooperation with relevant	
	there is a possibility of	stakeholders, create the	
	influencing this process.	promotion of these	
		activities.	

Table 9 Overview of potential elements that may have an impact on the health of the population



# 5.8. CHR08 - Strain on local Health Services

Considering the impact of the Project, it is necessary to look at the broader picture of the entire regional position of the Vares municipality as part of Zenica - Doboj Canton whose geographical location affects certain characteristics of healthcare, but also the overall organization of healthcare at both local and microregional level.

The age structure in the Vares municipality, which has not changed drastically in the last three years, from the official report of the Federal Bureau of Statistics of Federation of BiH and the official report - Information on the health status of the population from 2018 puts the Vares municipality in the lead with the most unfavourable situation with progressive-regressive structure and thus requires a specific type of healthcare organization.

Medical service	Number of	Job description
	teams	
Occupational medicine	1	Systematic examinations, preventive examinations, counseling
Protection of preschool children	1	Systematic examinations, controls
Protection of school children	1	Systematic examinations, controls
and youth		
Protection of women	1	Health protection of the female population
Pneumophthisiological	1	Protection, monitoring and treatment
protection		of the respiratory system diseases
Emergency medical care	1	Emergencies
Patronage service	1	Patronage visits

Table 10 Overview of the Public Institution Vares Health Centre services

Increased in-migration by those looking for employment and their families/dependents, as well as those seeking indirect economic opportunities will result in an increase in the population across Vares municipality. At present health services are already strained and limited in the region. Access to health care is a concern currently for many of the key communities, as determined in the household survey, with services only reaching remote villages (Borovica) once per month.

An increased population combined with the potential for accidents associated with project activities will mean that there will be an increased number of people requiring access to health services in Vares. The current facilities do not have the capacity to deal with this increased



demand, and it could be detrimental to vulnerable groups, particularly the elderly and disabled, should this resource be further strained.

Regarding emergency events, Adriatic Metals will utilise the Breza mine rescue service at the beginning of mine life before developing their own. An Emergency Response Plan and Procedure has been developed for the Project.

This impact will be adverse, will have a medium-long term duration throughout construction and operation and its impact will reach local-regional levels. The magnitude of impact is high. The receptors, direct population has a medium sensitivity, whilst indirect communities and employees have a low sensitivity. The impact is therefore moderate significance for indirect communities and employees and major significance for direct communities.

Adriatic have committed to provide a health clinic in Vares and are currently in negotiations with a health care provider. The clinic will be developed in Vares or Vares Majdan in agreement with a private landlord and the municipality. The clinic will provide GP type services, in addition to basic diagnostics including Pathology, CT and X-Ray. They will be able to provide first and second level trauma services via a dedicated high spec ambulance service, which if required could also transport patients to a private hospital in Sarajevo. The intent is that Eastern Mining will provide private health insurance for all staff, their adult spouse/partner, and dependent children. The Clinic will augment the current state facility, and all services will be available to the community. The clinic will also provide pre-employment medical screening and routine assessments for employees; the results of the latter will not be shared with Eastern Mining without employee consent.

Through the development of the medical clinic and employment medical screening, this impact will become moderate beneficial for direct communities, and low beneficial for indirect communities and employees.

The Health Impact Assessment Study carried out demonstrates the seriousness in ADT's approach to the implementation of the Project. The risk factors identified in this study as direct impacts from the Project and the Project activities (noise, vibration, dust, increased traffic, occurrence of metals in groundwater) however cannot be viewed as stand-alone factors but as part of environmental factors consisting of numerous demographic, social and economic factors that existed in this area before the initiation of the implementation of the Project. The Health Impact Assessment Study showed that the Project is not likely to lead to major changes in the structure and demography of the population in the area of the Vares municipality.

### 6.0 MONITORING AND EVALUATION

The Community Health, Safety and Security Management Plan will be considered as an active document and will be continuously improved as the Project develops. The implementation of all imposed measures, prevention programs will be continuously monitored by the company. Monitoring and evaluation must be based on already established processes and relevant legislation. The competence to monitor the elements of the health condition of the population and health care in the area of Zenica-Doboj Canton is within the competence of the secondary



level of health care, i.e. collection and processing is carried out by the Institutes for Health and Food Safety which perform annual reports / Information on the health status of the population of Zenica-Doboj Canton and health with a focus on each municipality / town of the canton, in accordance with relevant legislation related to data collection and disease reporting.

Monitoring and evaluation of the impact of factors such as noise, dust and the occurrence of metal particles in groundwater are analyzed in accordance with the annual measurement plan by certified institutions whose results can be used for analysis.

Given that there are key stakeholders in the care and monitoring of diseases that have defined the key parameters and indicators for monitoring the health of the population, it is recommended to communicate and cooperate with these institutions and conduct assessments on a monthly, semi-annual and annual basis.

# 7.0. TRAINING

Eastern Mining will ensure that all workers and communities receive training and education on health and safety, both personal and community-related health and safety. The company already has a well-established practice of holding safety meetings once a week with all employees as well as subcontractors with the aim of informing, gaining new knowledge and raising awareness regarding health and safety. Future education and training will be developed according to the needs and risks identified in terms of community health and safety.

### 8.0. REVIEW AND UPDATE

The Community Health, Safety and Security Management Plan will be reviewed on an annual basis, and if Project activities require earlier changes, it will be reviewed as needed. All necessary audits will be performed in a way that maintains the current status and activity of the Project. An annual audit of the Plan will be conducted to assess the compliance of the Plan as well as its effectiveness. The Community Health, Safety and Security Management Plan should be considered an active document and will be continuously improved and updated as the Project develops. The revision of this Plan is the responsibility of the Department of Environment and Social Management with the cooperation of the Department of Occupational Safety.

### 9.0. LITERATURE

- 1. ESIA for the Vares Project, 2021
- 2. Health Impact Assesment Vares Project Rupice and Veovaca
- 3. EBRD Performance Requirement 4
- 4. IFC Performance Standard 4