

**Environmental and Social Management Plan (ESMP)  
Labor Management Procedures (LMP) and  
Stakeholder Engagement Plan (SEP)  
for**

**Preparatory Works (Equipment Retrieval – Longwall  
Face)**

**on the Closure of RMU Zenica’s Raspotočje  
Underground Operation**

**under**

**Just Transition in Select Coal Regions  
of Bosnia and Herzegovina**

**Project**

**April 2025**

# 1. Project Background

The objective of the World Bank (WB)-financed project in Bosnia and Herzegovina (BiH) is to support Just Transition in Select Coal Regions of BiH.

The project sites are coal mines in the Federation of Bosnia and Herzegovina where, in addition to Banovići mine, just transition of the closure of Raspotočje site, which forms an integral part of Brown Coal Mine (RMU) Zenica, is also planned.

## **DESCRIPTION OF THE EQUIPMENT RETRIEVAL ACTIVITIES**

Activities on the retrieval of electromechanical and other equipment from RMU „Zenica“ d.o.o.-Zenica’s „Raspotočje“ underground operation are precisely defined in the approved engineering design documentation entitled:

„Supplementary Mining Design for the Retrieval of MHP Type BW 22/41 POZ with Accessory Equipment from Working Panel OP-5, Tectonic Terrace VIII-e of the Western Part of „Raspotočje“ Underground Operation, and the Closure of RMU „Zenica“ d.o.o.-Zenica’s „Raspotočje“ Underground Operation“ – Mining-Mechanical Part and Electrical Part. Mining works on the equipment retrieval and, subsequently, on the closure of „Raspotočje“ underground operation will be implemented in phases, as defined in the design referred to above.

### **Phase I**

The current position of the longwall face excavation advance front in working panel OP-5, tectonic terrace VIII-e of the western part of „Raspotočje“ underground operation, is at -122.42 meters elevation point in transport corridor TH-121 and at -93.81 meters elevation point in ventilation corridor VH-122.

In the next 30 meters of the longwall face advance along the transport corridor and 43 meters of the advance along the ventilation corridor, the longwall face excavation equipment needs to be brought into a condition where it can be retrieved from the excavation and transported towards the dismantling chamber.

After the retrieval and transportation of the SHP (self-powered hydraulic support) and other related equipment from the longwall face excavation and the electromechanical equipment that is situated in corridors TH-121 and VH-122 in front of the designed mud plug (hydraulic stowing) sites, the closure of the gob area of working panel OP-5 with mud plugs M.C.-1-Z and M.C.-2-Z will be undertaken.

### **Phase II**

Immediately after the retrieval of the longwall equipment and the closure of the gob area of working panel OP-5, the dismantling and retrieval of the remaining

electromechanical equipment from working panel OP-5 and working panel OP-4 mine workings of tectonic terrace VIII-e of the western part of „Raspotočje“ underground operation that are ventilated using the flow system of ventilation will be undertaken.

After the dismantling and retrieval of the remaining equipment from working panels OP-5 and OP-4, the sealing of corridors TH-119 and VH-120 will be undertaken.

### **Phase III**

Once the equipment has been retrieved and the sealing of the working panels of the western part of the underground operation of tectonic terrace VIII-e of „Raspotočje“ underground operation with sealing barriers in corridors TH-119 and VH-120 has been carried out, the preparation and, subsequently, the retrieval of the remaining equipment from the transport and ventilation areas in tectonic terrace VIII-e of the eastern part of „Raspotočje“ underground operation (Areas: TN115, VN-116 and ventilation connections between these two areas) that are ventilated using the flow system of ventilation will be undertaken.

Electrical supply of the pumping installations at -94 meters elevation point needs to be provided from higher elevation points before starting the pull-out of the equipment from this part of the underground operation, all with the aim of more efficient pull-out of the pumping installations and other equipment while there is orderly ventilation using the flow system of ventilation in this part of the underground operation. The pumping installations and gas-ventilation parameter measuring devices will therefore be pulled out only once all other equipment other than the equipment that is used for monitoring of the gas-ventilation parameters and drainage of this part of the underground operation has been retrieved.

The water from this site needs to be pumped out to the maximum extent possible before shutting down the drainage system, all with the aim of retrieving the pumping installations and other equipment before disruptions to the ventilation using the flow system of ventilation in this part of the underground operation. The technical site manager will make a special instruction for this phase of works, defining precisely measures and actions to be taken to safely pull out the equipment from this part of the underground operation, which will go through approval according to already established practice in RMU „Zenica“ d.o.o. Zenica. Once the equipment has been retrieved from this part of the underground operation, the construction of sealing barriers at the entrance to area TN-115 and at the entrance to area GVP-ID1 will be undertaken.

### **Phase IV**

Once the electromechanical equipment has been retrieved from the mine workings made in seam floor II of tectonic terrace VIII-e of „Raspotočje“ underground operation and this part of the underground operation has been sealed, the pull-out of the remaining equipment from the mine workings made in coal seam floor II of

tectonic terrace VII-e of the eastern part of „Raspotočje“ underground operation that are ventilated using the flow system of ventilation will be undertaken, namely all the way up to the main transport connecting drift level. The remaining equipment from the main transport connecting drift level will further be pulled out all the way up to the geological rise, as well as the equipment that is situated in the mine workings made in the main coal seam of tectonic terrace VII-e of „Raspotočje“ underground operation that are ventilated using the flow system of ventilation, namely all the way up to the intersection of VTN-114 and VV-2.

Before undertaking the sealing of this part of the underground operation, all water inflows from higher parts of the underground operation need to be diverted to the deep part of the underground operation towards the mine workings made in coal seam floor II.

Once the routing of all water inflows towards the deep part of the underground operation has been carried out, the sealing of the active part of the underground operation will be undertaken, namely by constructing mud plug M.C.-3-Z at the main transport connecting drift level at 1.79 meters elevation point (after the intersection of the main transport connecting drift (GTP) with the Geological rise).

In parallel with these works, the sealing of VTN-114 will be carried out underneath the intersection with VV-2 at 81.68 meters elevation point with mud plug M.C.-4-Z.

#### **Phase V**

Before undertaking the sealing of the fresh airstream branch (short connection of the hoisting shaft and +180 meters elevation point), the following needs to be ensured:

- Through ventilation barrages VP-1,2,3 and the ventilation barrages in the main ventilation rises, ensure the required quantity of air on VS-1A, 21A and 21, so that the contents of mining gases in the airstream are within the regulatory permissible limits.
- Ensure gravitational drainage of the 180 elevation point towards the deep part of the underground operation, while leaving the possibility for water from the 180 elevation point to be released in a free fall through the profile of the hoisting shaft towards the landing once mud plug MC—5-Z has been constructed. This measure shall be taken to ensure safe backfilling of the hoisting shaft and better homogenization of the backfill material.
- Render all electrical installations and devices at +180 meters elevation point non-active and retrieve from the underground operation all the remaining equipment other than the devices that measure gas-ventilation parameters, while remediating the area and ensuring a transport system by the bottom rail from the water collector and TS“A“ towards the short connection at +180 meters elevation point before that.

- **Retrieve from the underground operation all the remaining electrical and mechanical equipment that is planned to be retrieved according to the design concerned.**

After the above phases, activities on the closure of the main entrance (hoisting shaft) and the main exit areas of „Raspotočje” underground operation and the dismantling of related hoisting shaft, main fan installation and external transport equipment will be undertaken, all in accordance with the approved „Supplementary Mining Design for the Retrieval of MHP Type BW 22/41 POZ with Accessory Equipment from Working Panel OP-5, Tectonic Terrace VIII-e of the Western Part of „Raspotočje“ Underground Operation, and the Closure of RMU „Zenica“ d.o.o.-Zenica’s „Raspotočje“ Underground Operation“ – Mining-Mechanical Part and Electrical Part.

Since, according to the World Bank procedures, specifically the Environmental and Social Risk Management Framework (ESF), the equipment retrieval activities are considered to be directly associated with the overall mine closure plan, these activities are therefore treated as one part of the project. According to the ESF procedures, the following plans need to be prepared for the Raspotočje site equipment retrieval activity:

- Environmental and Social Management Plan (ESMP)
- Labor Management Plan (LMP)
- Stakeholder Engagement Plan (SEP).

Considering that the equipment retrieval, i.e. the retrieval of the longwall face from Raspotočje site, is an activity that was done several times on the site itself and that there are no divergences from regular works within the site itself, with the fact that Raspotočje site’s existing workforce will be used to retrieve the longwall face, it was assessed that this activity would have a **medium** environmental and social risk and the above plans are adequate to identify all the relevant impacts and propose adequate measures to mitigate them.

The proposed longwall face retrieval activities on Raspotočje site have environmental and social impacts that do not go beyond the site itself and can be easily mitigated by applying mitigation measures, i.e. procedures that form an integral part of day-to-day work on the site.

Further mine closure activities, which are related to its safety, adequate closed underground operation management, groundwater management, mining gas monitoring and management and all the other elements that the concept of *Just Transition* entails will be the subject of a broader Environmental and Social Impact Assessment (ESIA) study. This study will be conducted as part of the project implementation itself and will be based on further technical studies and support to be provided through the project.

## The Objective of this Plan (ESMP)

The objective of this Plan is to present any potential risks related to the proposed longwall face retrieval activities on Raspotočje site, in accordance with the documentation: *Supplementary Mining Design for the Retrieval of MHP Type BW 22/41 POZ with Accessory Equipment from Working Panel OP-5, Tectonic Terrace VIII-e of the Western Part of „Raspotočje“ Underground Operation, and the Closure of RMU „Zenica“ d.o.o.-Zenica’s „Raspotočje“ Underground Operation “ – Mining-Mechanical Part (DRP).*

The ESMP is prepared as per the guidance in *Environmental and Social Management Framework (ESMF)* prepared for the purposes of the World Bank project, which was disclosed on the Federation Ministry of Energy, Mining and Industry’s website and which was subject to a public consultation event that was held in Sarajevo on October 10<sup>th</sup>, 2024.

The ESMP was also prepared in accordance with all the relevant World Bank’s Environmental and Social Standards (outlined in the table below) and the World Bank’s Environmental, Social, Health and Safety Guidelines (the ESHS Guidelines).

E&S Standards		Relevance
<b>ESS 1</b>	Assessment and Management of Environmental and Social Risks and Impacts	Relevant
<b>ESS 2</b>	Labor and Working Conditions	Relevant
<b>ESS 3</b>	Resource Efficiency and Pollution Prevention and Management	Relevant
<b>ESS 4</b>	Community Health and Safety	Relevant
<b>ESS 5</b>	Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Relevant
<b>ESS 6</b>	Biodiversity Conservation and Sustainable Management of Living Natural Resources	Relevant
<b>ESS 7</b>	Indigenous Peoples	Not Relevant
<b>ESS 8</b>	Cultural Heritage	Not Relevant
<b>ESS 9</b>	Financial Intermediaries	Not Relevant
<b>ESS 10</b>	Stakeholder Engagement and Information Disclosure	Relevant

## 2. Scope of Works

As part of the preparatory works (equipment retrieval – longwall face) on the closure of RMU Zenica d.o.o.-Zenica's „Raspotočje“ underground operation, the following activities are planned:

**2.1. Commencing the works and making the longwall face operational, remediating the ruptures and starting the longwall face;**

A detailed inspection of the longwall equipment and rectification of any deficiencies on it, securing of the longwall face advance front (removal of hanging pieces in the sides, drilling of wood anchors in the longwall face front, securing of the collapsed part of the roof in front of the self-powered hydraulic support with wooden towers and wooden posts and steel profiles), securing and bracing of the lower and upper chambers are planned as part of this activity, in accordance with the approved supplementary mining design. Once all of the above safety measures have been implemented, the works will proceed in accordance with the approved supplementary mining design to bring the SHP (self-powered hydraulic support) to a stable zone, i.e. underneath the roof plate of coal seam floor II in working panel OP-5, tectonic terrace VIII-e of the eastern part of „Raspotočje“ underground operation, with the digging height of 4 meters, and to the designed position of the longwall face advance front in working panel OP-5. This activity is planned to take a half month to complete.

**2.2. Operating the longwall face and bringing it to the planned liquidation line, with preparation for the retrieval**

The current position of the longwall face excavation advance front in working panel OP-5, tectonic terrace VIII-e of the western part of „Raspotočje“ underground operation, is at -122.42 meters elevation point in transport corridor TH-121 and at -93.81 meters elevation point in ventilation corridor VH-122.

In the next 30 meters of the longwall face advance along the transport corridor and 43 meters of the advance along the ventilation corridor, the longwall face excavation equipment needs to be brought into a condition where it can be retrieved from working panel OP-5.

The longwall face advance to the liquidation rise under this design will be based on the already approved designs:

- Supplementary Mining Design for the Transport and Assembly of MHP Type BW 22/41 POz with Accessory Equipment from Working Panel OP-4 of the Western Part of Terrace VIII-e to Working Panel OP-5 of the Western Part of Terrace VIII-e and the Excavation of Coal Seam Floor II in Working Panel OP-5 of the Western Part of Terrace VIII-e of RMU „Zenica“ d.o.o.- Zenica's „Raspotočje“ Underground Operation - Mining-Mechanical Part, design number: RJZ-04/22, March 2022, (approved by FMERI's Decision Up/I number: 06-14-1-334/22, dated June 15, 2022), and
- Supplementary Mining Design for the Transport and Assembly of MHP Type BW 22/41 POz with Accessory Equipment from Working Panel OP-4 of the Western Part of Terrace VIII-e to Working Panel OP-5 of the Western Part of Terrace VIII-e and the

Excavation of Coal Seam Floor II in Working Panel OP-5 of the Western Part of Terrace VIII-e of RMU „Zenica“ d.o.o.- Zenica’s „Raspotočje“ Underground Operation - Electrical Part, design number: 30-01-01-214/22, Tuzla, March 2022, (approved by FMERI’s Decision Up/I number: 06-14-1-379/22, dated July 01, 2022),

If more favorable parameters in terms of a more stable roof are ensured with the longwall face advance, the preparatory works for the retrieval of the longwall face can commence even before the charted liquidation rise site.

However, if the conditions for safe retrieval of the longwall equipment are not created by the time of reaching the planned liquidation line, it must not progress until the conditions for safe retrieval of the equipment are created.

Once the longwall face excavation has been brought to a stable zone, thirteen (13) cuts will be made, in the course of which protective netting with anchors and steel ropes will be placed and bracing of the free space across the entire length of the longwall face from VH-122 to TH-121 will be carried out, all in accordance with the approved Supplementary Mining Design.

Once these works have been completed, the conditions for the retrieval of the longwall equipment from working panel OP-5, tectonic terrace VIII-e of „Raspotočje“ underground operation, will be created.

This phase of the works is planned to take one month and fifteen days to complete.

The activities described in points 3.1 and 3.2 are therefore planned to take two months to complete.

### **3. Legal and Procedural Framework**

RMU Zenica d.o.o. Zenica and specifically Raspotočje underground operation operate in accordance with all the relevant decisions and legal acts that are required for this activity. They include, inter alia:

1. Decision Granting the Authorization to RMU „Zenica“ d.o.o.-Zenica, Stjepana Radića 2, to Engage in Registered Activities in the Fields of Mining, Geology, Energy and Industry, Up/I number:09-18-380/99, dated March 03, 2000
2. Supplementary Decision for Engaging in Registered Activities in the Fields of Mining, Geology, Energy and Industry, Upl number: 07-18-380/99, dated December 24, 2002.
3. Decision Issuing the Permit to JP Elektroprivreda BiH d.d. Sarajevo, ZD RMU Zenica“ d.o.o.-Zenica, to Carry Out Periodic Inspections, Measurements and Tests of Work Tools and Devices, Physical, Chemical and Biological Impacts and Issue Corresponding Mining Documents, Up/I number: 06-18-92/18, dated July 10, 2018.



4. Decision on Modifications to the Data, in the Subject of the Registration and the Court Register, Issued by the Municipal Court in Zenica under number: 043-0-Reg-25-000108, dated February 07, 2025.
5. Decision Extending the License for Underground Exploitation of Brown Coal Within the Boundaries of "Raspotočje-Drivuša" Exploitation Field in the Territory of Zenica Municipality, UP/I number: 06-18-272/12, dated October 30, 2012,
6. Extract from "Raspotočje" Possession Sheet number: 252/03, dated June 24, 2011,
7. Decision on the Water Permit for "Raspotočje" Operation number: UP-I/25-3-40-027-3/14, dated March 14, 2014,
8. Decision on the Water Permit for "Raspotočje" Operation number: UP-I/25-3-40-017-5/19, dated April 22, 2019,
9. Decision on the Water Permit for "Raspotočje" Operation number: UP-1/21-3-40-532-5/23, dated May 06, 2024,
10. Decision on the Water Approval Granted to the Legal Entity, RMU „Zenica“ d.o.o.-Zenica, for the Closure of „Raspotočje“ Brown Coal Exploitation Operation in Raspotočje Settlement, City of Zenica, based on the design documentation: „Supplementary Mining Design for the Retrieval of MHP Type BW 22/41 POZ with Accessory Equipment from Working Panel OP-5, Tectonic Terrace VIII-e of the Western Part of „Raspotočje“ Underground Operation, and the Closure of RMU „Zenica“ d.o.o.-Zenica’s „Raspotočje“ Underground Operation“ (Mining-Mechanical Part), developed by RMU „Zenica“ d.o.o.-Zenica (number: 03/24, August 2024), audited by RMU „Abid Lolic“ d.o.o. Travnik-Bila and approved by the Federation Ministry of Energy, Mining and Industry’s Decision Up/I number: 06-14-1-36/25, dated February 05, 2025.
11. Decision on the Environmental Permit for "Raspotočje" Operation number: UP-I/05-23-48-6/09 SN, Sarajevo, January 03<sup>rd</sup>, 2013
12. Decision on the Renewed Environmental Permit for "Raspotočje" Operation number: UPI 05/2-23-11-2/18 SN, Sarajevo, March 08<sup>th</sup>, 2018
13. Reply from the Federation Ministry of Environment and Tourism Related to the Closure of „Stara Jama“ and „Raspotočje“ Underground Coal Exploitation Operations number: 05/2-19-5-639/24, dated August 16, 2024.
14. Reply from the Federation Ministry of Environment and Tourism Related to the Follow-Up with Regard to the Closure of „Stara Jama“ and „Raspotočje“ Underground Coal Exploitation Operations number: 05-19-973/24, dated December 31, 2024.
15. Decision of the Federation Ministry of Energy, Mining and Industry Issuing the Permits to Brown Coal Mine „Zenica“ d.o.o.-Zenica for the Implementation of Works According to the Supplementary Mining Designs and Other Engineering Design Documentation for „Raspotočje“ Underground Operation

## 4. Description of the Baseline State of Environment

### *General Data about the Underground Operation*

„Raspotočje-Drivuša“ exploitation field is situated in the territory of Zenica Municipality, covering an area of 2400 ha. The exploitation of coal in Raspotočje underground operation is carried out underground (underground exploitation). The Decision of the Federation Ministry of Energy and Mining Up/I number: 06-18-272/12, dated October 30, 2012, Mostar, extended the permit for underground exploitation of brown coal within the boundaries of „Raspotočje-Drivuša“ exploitation field in the territory of Zenica Municipality.

„Raspotočje“ underground operation operates as a site within RMU „Zenica“ d.o.o. Zenica. It was opened in 1951 with two parallel downdip areas reaching k +182 m elevation point, which are nowadays used to take the main outgoing airstream out of the underground operation. The 330 m deep hoisting shaft reaching k +0.023 m elevation point was constructed and it was commissioned in 1973 together with the connecting drift that is at k ±0 elevation point.

The „Raspotočje“ site's industrial grounds lie south of the City of Zenica in the Local Community (MZ) of Raspotočje, at the distance of about 2.0 km from the city center. The regional road Dobož - A1 - 5a - Kaonik runs through these industrial grounds. The administration building, dressing room and bathroom, hoisting shaft and accessory site facilities lie south of this regional road. This part of the industrial grounds is surrounded by individual residential buildings of Donje Raspotočje settlement on the east, south and west side. The coal separation plant and main fan installation building with accessory buildings (substation building and degassing building) are situated in the northern part of the site's industrial grounds (north of the regional road). Situated on the north side of the industrial grounds are the industrial grounds of the enterprises: AR-EL, PRIM, Brkić Prom and Selekt.

The „Raspotočje“ site's industrial grounds are connected to the water supply, telephone and power supply networks of the City of Zenica. The wastewater from „Raspotočje“ underground operation is drained as sanitary-fecal water from infrastructure facilities into the stream that flows alongside the western boundary of this site. This stream drains into Bosna river.

### *Hydrology*

In the Zenica area, most watercourses belong to the Bosna river basin, which is the only watercourse of 1<sup>st</sup> category and the main recipient for all other watercourses of 2<sup>nd</sup> category in the area of the city. In the territory of the City of Zenica, the surface area of the Bosna river basin is approximately 4,167 km<sup>2</sup> or 4.8% of the total basin area of this river. Most of its tributaries originate in the city

area, and a smaller number outside the city. Category 2 watercourses in the Zenica area are: Lašva, Kočeva, Bistričak, Babina rijeka, Ograjina, Bistrička rijeka, Orahovička rijeka, Gračanička rijeka, Nemilska rijeka, Pepelarska rijeka, Bukovačka rijeka, Šerička rijeka, Seočka rijeka, Poščanska rijeka, Stranjanska rijeka, Velika rijeka, Jezeračka rijeka, Mala rijeka, Šagovića rijeka, Potočka rijeka, Vrseljska rijeka, Đulanova rijeka. Only Lašva river belongs to the larger watercourses, whose mouth itself is located in the territory of the City of Zenica .

### *Land*

The forest resources of the **City of Zenica** cover about 60% of the city's territory. High forests with natural regeneration occupy 66.9% of forest land, coppice forests 27.8%, and 5.3% refers to bare forest land. The forests are mainly deciduous forests, and coniferous forests account for only 0.4% of the forest land. Wood stock or wood mass is 4,891,000 m<sup>3</sup> or 159 m<sup>3</sup>/ha. The area of agricultural land in the **City of Zenica** is 16,615 ha or 30.2% of the City's territory. In the total structure of agricultural land, arable land and gardens make up 38%, orchards 11%, meadows 44%, and pastures 7%.<sup>1</sup> Only 47% of the total arable land and gardens is actually farmed.

### *Air quality*

According to the Development Strategy of Zenica-Doboj Canton, the biggest air polluters in the Zenica area are the industries Arcelor Mittal Zenica, Coal Mine Zenica, and Dairy industry Zenica. There are 5 measuring stations in the Zenica area, namely on the sites: Centar, Radakovo, Tetovo, Brist and Vranduk. These are part of the FBiH air quality monitoring network.

### *Waste management*

The City of Zenica has the regional sanitary landfill Moščanica where municipal waste is managed, while specific waste streams are managed through licensed firms. Industrial waste management poses a greater challenge, while the activities related to disposal sites for the waste from Raspotočje Underground Operation will be the subject of subsequent studies.

### *Protected areas*

Protected cultural monuments in the area of the **City of Zenica** are: Vranduk Fortress - a medieval and Ottoman fortress with the mosque of Sultan Fatih, the Sultan Ahmed Mosque in Zenica, the Sejmenska Mosque in Zenica, the Old Mosque with the Harem in Orahovica, the Orthodox Church of the Nativity of the

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<sup>1</sup> Federal Institute for Development Programming: Socio-economic indicators by municipalities, 2022

Blessed Virgin Mary in Zenica, the Paper factory Papirna in Zenica - architectural complex, the Church of St. Elijah with parish office in Zenica - architectural complex, the Building of the former Synagogue in Zenica.

## 5. Description of the Environmental Monitoring

According to the Decision issued by the Federation Ministry of Environment and Tourism to RMU Zenica, Raspotočje Site carried out properly the regular monitoring prescribed in the permit of the permit parameters. In the next planning period, RMU „Zenica“ d.o.o.- Zenica plans to continue activities in the environmental protection domain, in accordance with the prescribed laws and rulebooks in the field of environmental protection for the sites:

- „Stara jama“,
- „Raspotočje“

Considering the amendments made to the Law on Environmental Protection (Official Gazette of the Federation of BiH, number: 15/21) and the Decree setting out the plants and installations that must have environmental permit (Official Gazette of the Federation of BiH, number: 51/21 and 74/22), RMU Zenica is not required to obtain environmental permits for its Stara jama and Raspotočje production sites, save for the boiler rooms concerned requiring submission of reports on the total amount of emitted pollutants - the Pollution Register.

The Sava River Watershed Agency issued the Decision on Water Permits to RMU „Zenica“ d.o.o.- Zenica for the sites „Stara jama“, „Raspotočje“. The water permits lay down the treatment method for waste process and sanitary water and water protection measures to be taken until the expiry of the water permits.

WATER PERMITS					
Seq.no.	Name	Site	Date of issue	Period of validity	Date of submission of permit renewal application
1.	Water Permit UP-I/21-3-40-531-5/23	Stara jama and Separacija	May 07, 2024	4 years	2028
2.	Water Permit UP-I/21-3-40-532-5/23	Raspotočje	May 06, 2024	4 years	2028

With the aim of implementing measures in the fields of environmental protection and water protection, the following is planned in the next three-year period:

- Annual monitoring of pollutant parameters: (air, water)

- Preparation of a study on pollution load testing of wastewater from RMU “Zenica“ with population equivalent (PE) calculation, December 2026
- Conclusion of a contract with an authorized hazardous waste treatment operator
- Renewal of the contract with the authorized utility enterprise
- Landscaping of the RMU „Zenica“ site’s industrial grounds in accordance with the approved engineering design documentation
- Procurement of waste disposal containers (electrical and electronic, paper and cardboard, municipal waste)
- Annual settlement of obligations – polluter fees (air polluter fee, special water fee)

## EMISSION MONITORING

The annual air monitoring and monthly wastewater monitoring are carried out by an authorized institution contracted by RMU “Zenica”. Air pollutant monitoring is carried out annually (during the heating season). Wastewater quality and quantity monitoring tests the pollution level of wastewater discharged from the site with the aim of defining the Program with the number of tests during one-year period for each site. According to the Monitoring Program, process wastewater monitoring is to be carried out 12 times annually for the sites „Stara jama i separacija“ and „Raspotočje“. In addition, pollution load testing of wastewater from RMU „Zenica“ with population equivalent (PE) calculation is to be carried out every two years for the purpose of recalculating the total amount of special water fees. The wastewater pollution load testing is planned in December 2026.

PERIODIC TESTS – POLLUTANT MONITORING				
Seq.n o.	Parameter	Testing type	Site/work unit	Testing frequency
1.	Air	Air pollutant emission monitoring	Raspotočje	1 x annually
2.	Water	1. Study on testing of qualitative and quantitative effluent characteristics with water status monitoring and results	- Stara jama -Raspotočje	-12 x annually - 12 x annually
		2. Wastewater pollution load testing - EP	-Stara jama -Raspotočje	Every 2 years Most recent one in 2024 Planned in 2026

## The project's impact on noise level

Cleaning, demolition and closure of individual facilities require the use of machinery which contributes to an increase in noise level in the environment when operated. The impact of noise on human body depends on a number of factors:

- Noise-related factors: intensity, frequency, time of operation, noise characteristics (continuous or intermittent),
- Human body-related factors: age, activity, physical condition, individual sensitivity,
- Place of operation-related factors: space size, terrain configuration and buildings, etc.

Overall, the impacts of noise depend on the characteristics and complexity of activities performed. The exposure to noise could cause different types of reflexive reactions, especially if the noise is of unexpected or unknown nature. The vegetative nervous system reacts to these reactions, which are known as stress reactions. During the implementation of cleaning, demolition and closure works, noise at the source and in the surrounding environment has the characteristics of dispersion that are consistent with the nature and location of the equipment.

## Mitigation measures for the adverse impacts on the noise level and vibrations

It is evident that the use of machines and transport vehicles (trucks) during the implementation of works on the closure of "Raspotočje" underground operation will produce increased noise levels of even over 90 dB (A). However, this noise is strictly linked to the narrow site of the implementation of works. Still, the following mitigation measures for the adverse impacts of noise and vibrations are to be taken in the closure phase:

- use equipment and devices that have to be certified, i.e. designed or insulated not to emit noise to the external environment over the permissible level,
- implement works which would produce loud noise at specified time intervals and according to the relevant regulations and standards,
- turn off operating equipment and machinery which are not in use,
- avoid the use of multiple types of operating machinery which generates noise of over 90 dB (A),
- where the noise level exceeds permissible values, ban the use of machinery which produces impermissibly loud noise, i.e. use modern operating machinery, which is in working order and for which the Contractor is required to have operating licenses.

The Law on Protection against Noise („Official Gazette of the FBiH“, no. 110/12) lays down the permissible levels of noise, noise protection measures and noise measurement method.

## 6. Social Analysis

### 4.1. Demography

The population numbers in BiH entities and project municipalities show a decreasing trend (Table 1).

Table 1 Population number

Canton	2013 (census) <sup>2</sup>	2021 (estimate) <sup>3</sup>
Zenica	110,663	108,278
<b>FBiH</b>	<b>2,219,220</b>	<b>2,168,602</b>
<b>RS</b>	<b>1,228,423</b>	<b>1,128,309</b>

Majority of population belongs to 15-64 age group, which accounts for 68% of total population in Zenica.<sup>4</sup>

Population density in 2021 was 83 inhabitants/km<sup>2</sup> in FBiH and 46 inhabitants/km<sup>2</sup> in RS. The population density in Zenica is above the average (194 inhabitants/km<sup>2</sup>),

The average level of urbanization is 46.9% in FBiH and 45.7% in RS (2013, Census data), with the significant differences among municipalities. Majority of population in Zenica is urban (Figure 1).

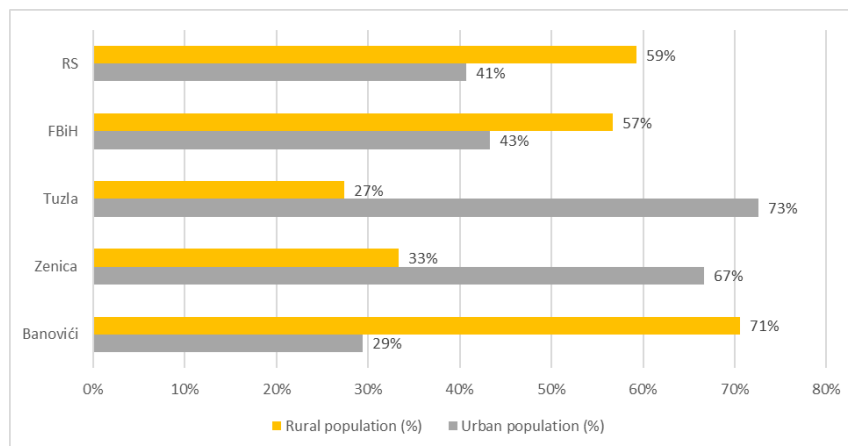


Figure 1 Urban area and urban population (2013)<sup>5</sup>

<sup>2</sup>Agency for Statistics BiH: Census of Population, Households and Dwellings in Bosnia and Herzegovina, 2013, Final Results, 2016

<sup>3</sup>Institute for Statistics: Cantons in Numbers, 2022; RS Institute of Statistics: Cities and Municipalities of RS, December 2022

<sup>4</sup>Ibid

<sup>5</sup>[www.statistika.ba](http://www.statistika.ba)

## 4.2. Local Economy

The economy of the **City of Zenica** is characterized by the dominant share of mining, energy and manufacturing industry (coke production, metal production and production of metal products, except machines and equipment). In some economic activities the concentration of employment is higher than the average concentration of employment in these activities at FBiH level. These activities are: coal and stone mining, manufacturing industry, transportation and storage.<sup>6</sup> Trade and industry account for over 60% of total employment and 75% of revenues. Tourism and catering, agriculture and ICT together account for less than 10% of total employment. Economic activity in Zenica strongly depends on large industrial and public enterprises. The largest company in Zenica is steel production company ArcelorMittal. Over 80% of total export in Zenica is provided by ArcelorMittal. Local small and medium-sized enterprises (SME) generate 50% of the revenues in Zenica and participate in the total employment with 53.3%.<sup>7</sup> A trend of increasing the number of SMEs and decreasing the number of micro-enterprises has been recorded. Of the total number of SMEs in Zenica in 2019, more than a third are in the trade sector (34.9%), followed by SMEs in the manufacturing industry sector (16.4%), in the sector of professional, scientific and technical activities (14.2%) and in construction (8.1%).<sup>8</sup> In the structure of the SMEs in the manufacturing industry, the largest number of SMEs are metal industries (not including machinery and equipment) and food industries.

## 4.3. Labor Market and Employment

### 4.3.1. Overview of labor market in BiH

A large share of BiH's working-age population is underutilized, whether unemployed or outside the labor market. The country's earlier high unemployment levels have improved markedly but remain significant.

The BiH labor market is highly distorted by a large public sector presence, leading to segmentation between good-quality public sector jobs and poor-quality private sector jobs. The generally high unemployment rates observed in BiH mask significant unreported informal employment and also reflect a marked preference for public sector jobs and a willingness to queue for them rather than taking a job in the private sector. The public sector (including state-owned enterprises) still accounts for one-third of total employment. Men comprise three-fifths of all public sector workers. The public sector attracts a large and growing share of the most educated workers, primarily due to better salaries, benefits, and working conditions. The private sector exhibited a degree of dynamic job creation in the last decade, but mostly in low-productivity sectors. Private employment is dominated by jobs in low-productivity, low-paying sectors such as agriculture, manufacturing, transport, and wholesale and retail. Between 2011 and 2019, the private sector added about 44,000 jobs in net terms.

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<sup>6</sup>Development Strategy of the municipality Zenica 2012-2022

<sup>7</sup>GCAP Zenica, 2019

<sup>8</sup>Strategy for the development of SMEs of the City of Zenica for the period 2021-2027



Younger workers in particular struggle to access high-quality, permanent jobs and are more likely to remain outside the labor force or migrate for work. Young people in BiH need on average 60 months to find employment after graduation, which represents a very long period during which skills can degrade. Youths who leave school with a secondary education require relatively more time to transition into work compared to those with tertiary education. Despite an apparent excess supply of youth entering the labor market, young people are still rejecting job offers because of unattractive working conditions such as low wages, unacceptable working hours, and mismatch in qualifications, among others. Some youths opt to seek work abroad; 30% of those who migrated between 2015 and 2020 were between the ages of 18 and 35.

Employed workers tend to be better educated than the unemployed, but educational attainment in BiH is generally low. The educational structure of labor force shows that 69.9% of workers have finished the secondary school and specialization, whereas the highest share in the educational structure of persons outside labor force have persons who finished the primary school or lower education - 47.8% (Figure 2).

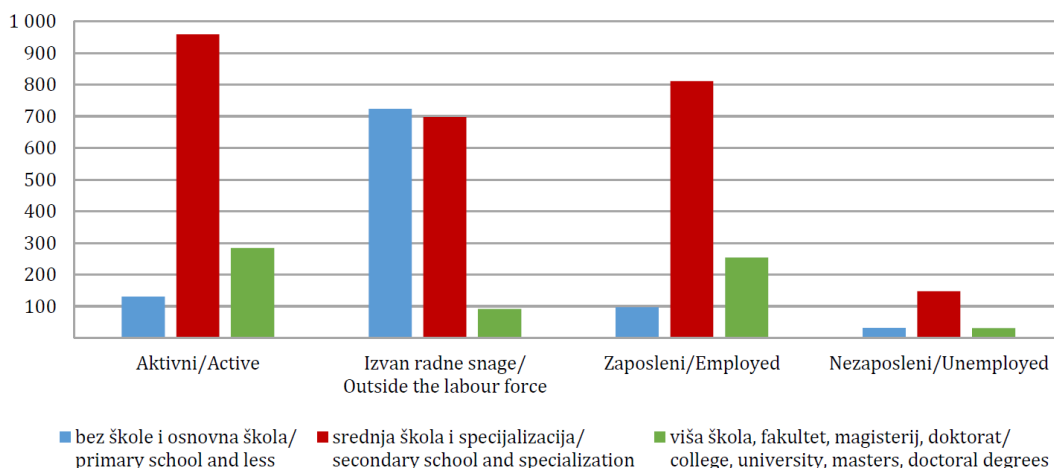


Figure 2 Education levels of working age population in BiH<sup>9</sup>

The BiH labor market struggles with skills mismatch. Part of this is due to migration. People of all educational levels are migrating, including the highly skilled; one in every six doctors trained in BiH now works in Germany. A misalignment of school curricula with employers' actual labor demand also contributes to skills mismatch. Nearly two-thirds of pupils at the secondary level are enrolled in technical and vocational schools (technical and vocational education and training (TVET)), despite the misalignment between school offerings and the needs of the labor market. Many TVET offerings are outdated and/or poorly equipped to provide the skills in demand by employers. The largest skills mismatch is observed among technicians and associated professionals (for example, construction, mechanical, and electrical workers), where only 24% of workers have the appropriate level of education based on International Labour Organization (ILO) classifications, and

<sup>9</sup>Agency for Statistics BiH: Labor Force Survey 2022

76% have inadequate formal education.<sup>10</sup> Three-quarters of those engaged in skilled agriculture, forestry, and fisheries and three-fifths of craft and related trades workers are also undereducated, according to this metric, whereas there are large numbers of overeducated workers in blue-collar occupations such as plant and machine operators and elementary occupations.

Low labor force participation, high outmigration, high unemployment, and extensive skills mismatch are all symptoms of inefficient allocation of human capital. This results in suboptimal output because workers' potential productivity is underutilized, which in turn acts as a drag on economic growth and at the same time constrains labor incomes and worker welfare.

#### *4.3.2. Employment, unemployment and salaries in Zenica*

According to the Federation Institute for Statistics' First Release number 8.4, dated February 28, 2025, Zenica-Doboj Canton totaled 83,239 employed persons in 2024, of which 35,713 were women. The average net wage in Zenica-Doboj Canton is BAM 1,184, while the average gross wage in Zenica-Doboj Canton is BAM 1,832. The number of employed persons in Zenica-Doboj Canton by classification of activities KD BiH 2010 sections, for activity B. Mining and quarrying, is 3,397 employed persons, of which 342 are women. The average net wage in this activity in Zenica-Doboj Canton is BAM 1,728, while the average gross wage is BAM 2,691.

According to the Federation Institute for Statistics' First Release number 8.4, dated February 28, 2025, the City of Zenica totaled 27,248 employed persons in 2024, of which 11,778 were women. The average net wage in the City of Zenica is BAM 1,326, while the average gross wage is BAM 2,066.

By classification of activities KD BiH 2010 sections, for activity B. Mining and quarrying, there are 597 employed persons in the City of Zenica, of which 26 are women. The average net wage in this activity in Zenica-Doboj Canton is BAM 1,728, while the average gross wage is BAM 2,691.

#### *4.3.3. Employment in the Coal Sector*

Although the coal sector is not the largest employer in the overall Bosnia and Herzegovina economy (jobs in coal mining and power generation accounted for only 31% of total national employment in 2019), it can be a significant player at the local level. This is especially the case in Banovići, Gacko, Ugljevik, Breza and Kakanj. These municipalities are vulnerable to economic fall-out from mine closure, not only due to their high dependence on the coal sector, but also because of already high unemployment.

As of end-2022, **14.6 thousand workers were directly employed in coal mines and thermal power plants**: 9.9 thousand in FBiH and 4.7 thousand in RS. Employment in mining has decreased steadily over the past decade: in FBiH, for which there are data since 2009, employment declined from 12.8 thousand workers in 2009 to 10.3 thousand

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<sup>10</sup>The World Bank: Bosnia and Herzegovina Jobs Diagnostic and Implications of Coal Transition, December 2022

in 2020, and another 1500 mining jobs were lost by end-2022.<sup>11</sup> Thermal power plants account for fewer jobs compared to mines but are nevertheless significant (no employment trend data available for TPPs). **Coal Mine Zenica** employs 915<sup>12</sup> workers, which is 3.4% of the total number of employees in Zenica in 2021 (26,906)<sup>13</sup> showing that mining is not of significant importance for Zenica's economy.

In addition to workers directly employed in mines and TPPs, **workers in other sectors also support coal production and will be impacted by mine and thermal power plant closure**. These include workers employed in the coal value chain, specifically in firms supplying inputs to mines and TPPs. **Number of these workers is between 1,900-2,400** who are also at risk of losing their jobs in the event of mine and thermal power plant closures.<sup>14</sup> Other workers who are indirectly associated with the functioning of mines are those employed in firms providing goods and services to coal-sector workers and their families, i.e., SMEs in and around the mining regions. Most suppliers and most supplier contract value are spatially concentrated close to mining and TPPs sites or in Bosnia and Herzegovina's major urban centers.

#### *4.3.4. Employee Profile in Coal Sector*

**Education.** Employees of mines have relatively low levels of education compared to TPP employees and the national average. 50% of coal sector employees are in low-skilled occupations, which is much higher than the national average of 21% and higher than other industrial sectors of activity such as construction (40%) and manufacturing (33%). 58% of the mines' workforce ended their education at lower-secondary school or before. The vast majority comprises semi-specialized workers, individuals who graduated from 2-3 years of vocational school. The coal sector also attracts high-skilled workers (such as engineers and technicians), who account for 25% of the coal sector workforce, slightly higher than the national average (23%), and much higher than other industrial sectors of activity like construction (9%) and manufacturing (15%).<sup>15</sup>

Figure 18 shows education structure of coal mines' workforce in comparison to the education structure of TPP's workforce.

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<sup>11</sup>The World Bank: Bosnia and Herzegovina Jobs Diagnostic and Implications of Coal Transition, December 2022

<sup>12</sup>The World Bank: Bosnia and Herzegovina Jobs Diagnostic and Implications of Coal Transition, pg. 23, December 2022

<sup>13</sup>FBiH Institute for Statistics: Cantons in Numbers, 2022

<sup>14</sup>The World Bank: Bosnia and Herzegovina Jobs Diagnostic and Implications of Coal Transition, pg. 29, December 2022

<sup>15</sup>ibid

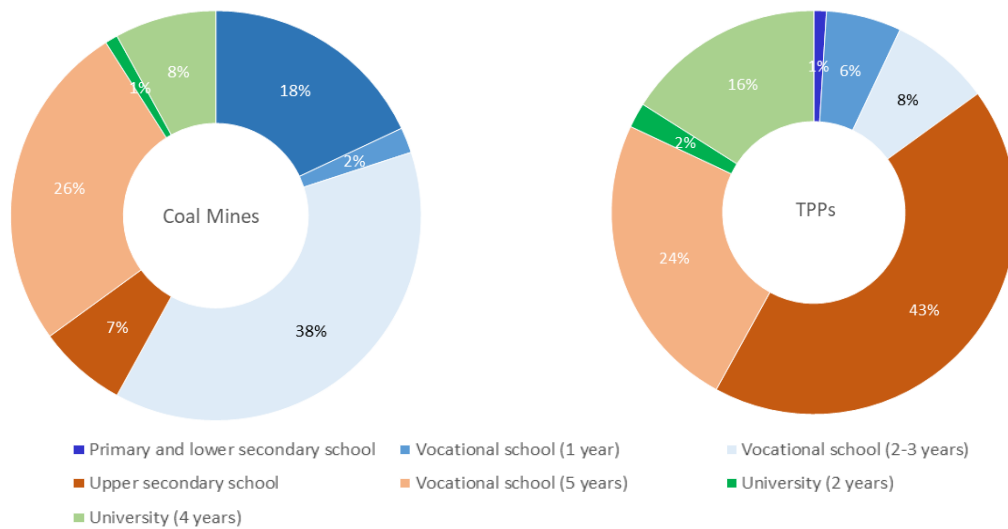
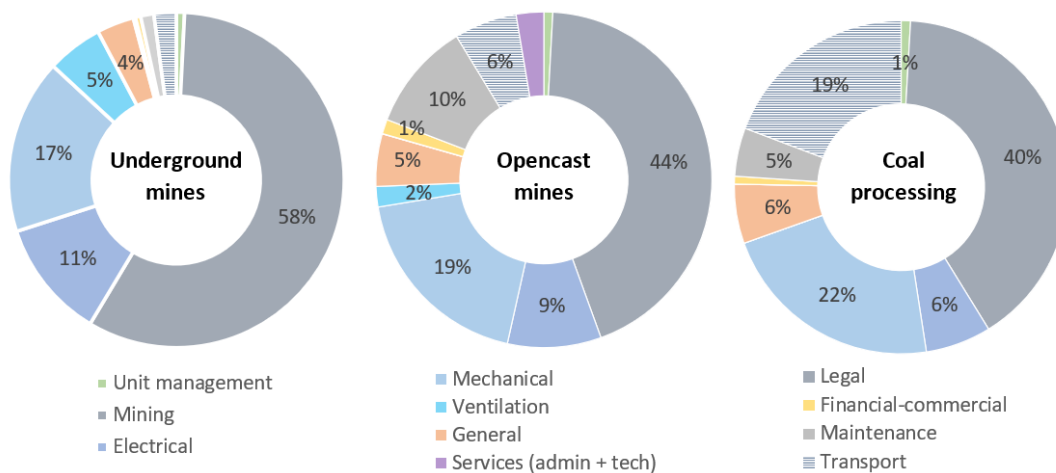


Figure 3 Education profile of workforce in coal mines and TPPs<sup>16</sup>

**Skills.** Miners account for the largest segment of workers employed by mining firms, especially in underground mines (Figure 4). Data from the mining conglomerates show that 58% of underground mines' employees are miners. For opencast mines, 44% of employees are miners. Most miners left school after primary or lower-secondary education or after 1-3 years of vocational training. The second largest segment of mine employees comprises technical positions, including those requiring electrical skills (10%), mechanical knowledge (18%), and ventilation shaft skills (less than 5%). Those positions require upper-secondary general or vocational education. Underground mines have very few positions dedicated to supporting activities and services, most of which are carried out by a centralized administrative support unit that serves multiple sites. Opencast sites exhibit a larger share of employment in maintenance and transportation activities (10% and 6%, respectively).



<sup>16</sup>The World Bank: Bosnia and Herzegovina Jobs Diagnostic and Implications of Coal Transition, December 2022

Figure 4 Skills profile of workforce in coal mines<sup>17</sup>

**Gender and age.** Coal workers are mostly male, rural, and in prime age. As in other countries, most coal workers are male (90%), second only to construction. 80% of coal sector workers live in rural locations. Similar to other traditional industrial sectors, the coal sector has a larger-than-average share of prime-age employees: 74% are between the ages of 26 and 55, compared to the national average of 70% (Figure 5). The sector attracts a lower share of young workers (4% of 15–25-year-olds, versus 10% in the general working population).

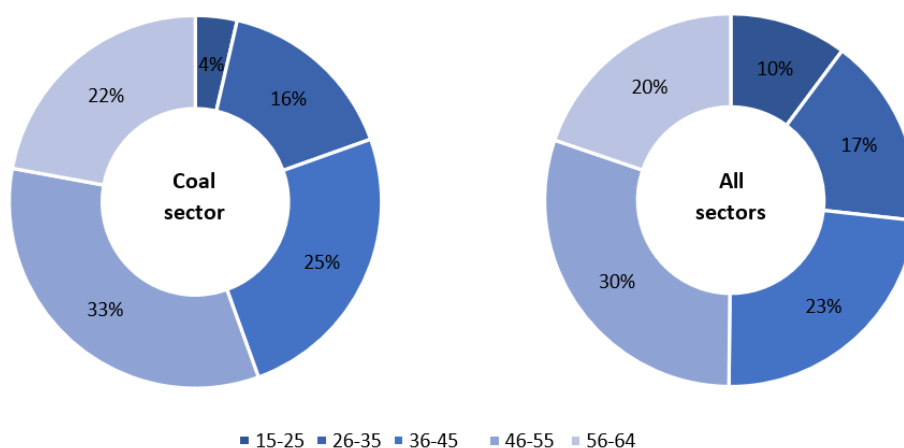


Figure 5 Age profile of coal sector employees compared to others<sup>18</sup>

**Compensation.** Lower-skilled mining employees are paid an average of BAM 954 per month, higher than the national average of BAM 752 for low-skilled workers. Higher-skilled coal sector workers earn 17% more (BAM 1046) than the national average for higher-skilled workers (BAM 905). In fact, lower-skilled employees of the coal sector are the highest paid lower-skilled workers among all sectors, and higher-skilled coal workers are the second highest paid higher-skilled workers, after public administrations. This means that coal sector workers who seek jobs in other sectors are likely to struggle to find comparable compensation.

Because most coal sector jobs are in the public sector, they receive good nonwage benefits. While pension coverage is widely available to workers in general (80% have access to a pension), almost all coal workers have access to pension (97%), on par with other workers in the public sector. Union membership is very high within the coal sector, and compensation packages include relatively high wages, extra compensation for transportation costs, meals, hardship and performance targets, disability benefits, and severance provisions as a result of collective bargaining.

<sup>17</sup>The World Bank: Bosnia and Herzegovina Jobs Diagnostic and Implications of Coal Transition, December 2022  
<sup>18</sup>The World Bank: Bosnia and Herzegovina Jobs Diagnostic and Implications of Coal Transition, December 2022

#### 4.3.5. Labor Conditions

The share of informal employment in total employment in Bosnia and Herzegovina is relatively high (14%, ILO 2020).<sup>19</sup> Informal labor is most common among the youth, older and unskilled workers. In addition, many self-employed are informally employed. The most common violations of labor rights include unreported employment, not allowing workers to use annual leave and not concluding employment contracts for an unspecified period with workers (by giving preference to fixed-term employment contracts).

The International Labor Organization (ILO) has warned that unreported employment is on the rise in all Southeast European countries. According to their data, between 150,000 and 200,000 workers across all sectors in BiH work illegally (every fourth worker), and the economic crisis, layoffs, and the difficult financial situation are contributing to the increase in this number. Half of this number are young people who have up to ten years of work experience "on the black market", and not a single day of recorded work experience. In FBiH, an estimated 20% of all labor relations are without a legal basis, meaning that labor is performed without signing an employment contract.<sup>20</sup>

According to the annual report for 2022 published by the Federal Directorate for Inspection Affairs, there were 52 violations of labor relations and 99 violations of OHS recorded during inspection control activities of the Federal Labor Inspectorate. In the same year, on the basis of collected data on accidents at work submitted by cantonal inspectors in FBiH, 280 work-related injuries were recorded, including 13 deaths and 270 cases of serious injuries. This means that there is 2.43 fatal accidents per 100,000 employees in 2020, whereas the EU average was 1.77 fatal accidents per 100,000 persons employed in 2020. However, it should be emphasized that these data are relative, given that some cantonal authorities do not regularly submit the requested data, and that employers unfortunately do not report accidents at work in all cases. In the field of „mining and tunneling“, 610 injuries at work were recorded, of which 51 were serious, with no fatal outcome. The highest number of injuries at work was recorded in Coal Mine Banovići (141) and Coal Mine Kakanj (127). The total number of injuries at work at the level of observed mines and contractors at other facilities of interest to the FBiH has been in constant decline for the last five years (2018-2022). Federal mining inspectors conducted three investigations of accidents in the Breza and Banovići mines in 2022, where three accidents occurred in which 10 miners were injured, 8 minor and 2 serious (without fatal consequences). The largest number of injuries at work, as in previous periods, was found in the areas of construction, production and processing of metals, and accidents at work are mainly the result of non-implementation of prescribed occupational safety measures, untrained workers in this area, failure to use personal protective equipment, as well as non-compliance with the provisions of technical regulations and standards.<sup>21</sup>

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<sup>19</sup>[https://www.ilo.org/budapest/countries-covered/bosnia-herzegovina/WCMS\\_471903/lang-en/index.htm](https://www.ilo.org/budapest/countries-covered/bosnia-herzegovina/WCMS_471903/lang-en/index.htm)

<sup>20</sup>Federal Institute for Development Programming: Report on the Development of the Federation of BiH 2019, 2020

<sup>21</sup>Presentation of the results of the work of the Federal Directorate for Inspection Affairs for 2022, January 2023



In RS, according to the official report published by the Republic Labor Inspection, the Inspection visited 2,589 employers in 2022, and labor law breaches were found in 35%. 200 workers were found without a signed employment contract and without insurance. In the field of labor relations, controls were carried out on the realization of rights from the employment relations of workers, primarily the length of working hours and other rights from the labor relations, especially the realization of wages for work performed. In this period, there were no data on work-related injuries. The most frequent breaches of the labor legislation are related to calculations and payments of wages and compensations, termination of employment, working hours, lack of employment contracts, and holidays and leave. In this period, there were no data on work-related injuries.<sup>22</sup>

#### 4.4. Transport Infrastructure

The geographical position of the **City of Zenica** is satisfactory considering that the city is located on the most important transport corridors in Bosnia and Herzegovina, on the Vc (A1) corridor, i.e. the north-south direction and the Xe corridor, i.e. the northeast-southwest direction. Also significant is the planned transport corridor Orašje-Tuzla-Žepče, with a connection via the inter-regional junction in the area of Žepče with the corridor Vc (A1). The highway A1 on the corridor Vc passes through the City of Zenica in the length of 3.2 km, two main roads M17 in the length of 37.2 km and M5 in the length of 1.6 km, four regional roads R413a (10.7 km), R441 (7.7 km), R445 (36.6 km), and R473 (15.6 km), which favorably affects the geotrafic position of the city, i.e. traffic connections within the Canton, the state and beyond. The Šamac-Sarajevo-Ploče railway line exists in the territory of the City of Zenica, which is of major importance and represents a very important transport route in railway traffic, and it is part of the transport corridor Vc.<sup>23</sup>

#### 4.5. Water and Sanitation Infrastructure

The water supply of the **City of Zenica** and suburban settlements is done from the Kruščica spring in the neighboring municipality of Vitez, from which about 400 l/s is taken, and from the water intake on Babina river, from which about 150 l/s is taken.<sup>24</sup> The public water supply system, which is managed by Public company ViK Zenica, covers the entire urban area of Zenica and most of the suburban settlements, which accounts for approximately 90% of connected households (consumers) living in the service area. Currently, about 76,000 inhabitants are connected to the public water supply system, which is about 54% of the total number of inhabitants. About 2,400 different legal entities are also connected. The remaining part of the municipality (rural part) is supplied with water from local water supply systems. The majority of the urban area (approx. 90%) and part of the suburban settlements is covered by the public sewage system. The system is of mixed type. A separate sewage and storm water system exists only in the settlements of Babina Rijeka and Novo Radakovo. The area of public sewage system covers a total of 26 local communities, where the total number of inhabitants is about 87,100, of which 76% is covered by public sewage (about 66,200 inhabitants). Currently, 50% of the

<sup>22</sup>Report on the work of the Republic Administration for Inspection Works for 2022, February 2023

<sup>23</sup>Spatial Plan of the City of Zenica 2016-2036

<sup>24</sup>Local Environmental Action Plan Zenica 2008/2009

wastewater from this system is discharged into the ArcelorMittal company's industrial sewage system, while the remaining 50% is discharged directly into the Bosna River. However, the sewage system from the ArcelorMittal company has direct discharges into the Bosna River too, so that all the city's wastewater ends up in the Bosna River without treatment.<sup>25</sup>

#### 4.6. Information and Communication Technologies

The Regulatory Agency for Communications (RAK) regularly publishes reports on the results of the annual surveys of users of RAK licenses for the provision of internet services in Bosnia and Herzegovina. In the period covered by the research, ending with December 31, 2021, a total of 60 internet service providers were operating in Bosnia and Herzegovina.

The results of the survey showed that at the end of 2021 there were a total of 797,893 internet subscribers in Bosnia and Herzegovina. The Agency estimates that in the same period there were 3,374,094 Internet users, that is, that the Internet usage rate in BiH for 2021 is 95.55%. When it comes to the type of Internet access, there are no more registered subscribers via dial-up analog and ISDN modems on the BiH market, and the number of broadband access connections is equal to the total number of Internet subscribers and amounts to 797,893 subscribers.

Statistics show that in 2021 the dominant type of internet access was xDSL, whose number of subscribers is 52.14% of the total number of internet subscribers in Bosnia and Herzegovina. In second place is cable access, the number of subscribers of which is 33.26% of the total number of Internet subscribers.

The data provided in the report show that the use of broadband Internet in Bosnia and Herzegovina is constantly increasing, which has influenced the improvement of the offered services for end users, which is especially reflected in the offer of service packages that combine several electronic communication services in one package.

#### 4.7. Education

Education structure of population 15 years and over show that 35% of population in FBiH and 36% in RS have low level of education – primary school or less. Share of female in this education group is 65% in FBiH and 62% in RS. Majority of population have secondary school education – 51% in both FBiH and RS, whereas 14% of population in FBiH and 13% in RS have higher level education (Figure 6). Education structure of female in Tuzla is better than the FBiH average, in Zenica is similar to the FBiH average, whereas education of female in Banovići is below the FBiH average. More than half of female in Banovići have primary school education or less compared to 20% of male (Figure 7).

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<sup>25</sup>Spatial Plan of the City of Zenica 2016-2036



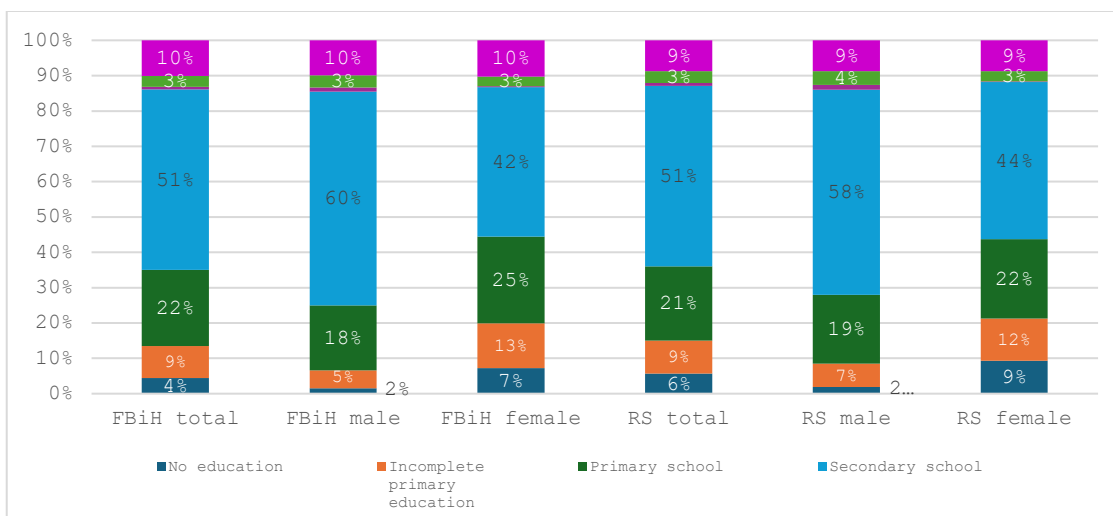


Figure 6 Population 15 years and over by highest level completed education and gender – FBiH, RS<sup>26</sup>

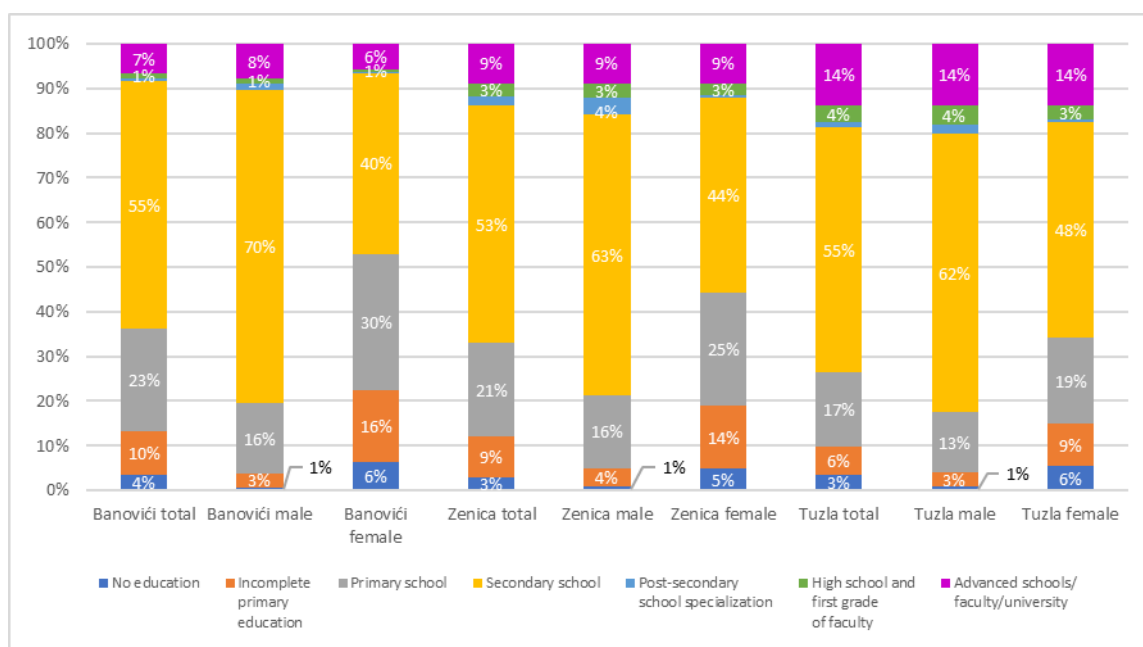


Figure 7 Population 15 years and over by highest level completed education and gender – Banovići, Zenica, Tuzla<sup>27</sup>

Majority of all age groups have completed secondary school, younger generations have significant share among those with university diplomas, whereas older generations present majority of those with no education and incomplete primary education (Figure 8 - Error! Reference source not found.).

<sup>26</sup>Agency for Statistics of BiH: Census 2013 – Characteristics of Education, 2018  
<sup>27</sup>Agency for Statistics of BiH: Census 2013 – Characteristics of Education, 2018

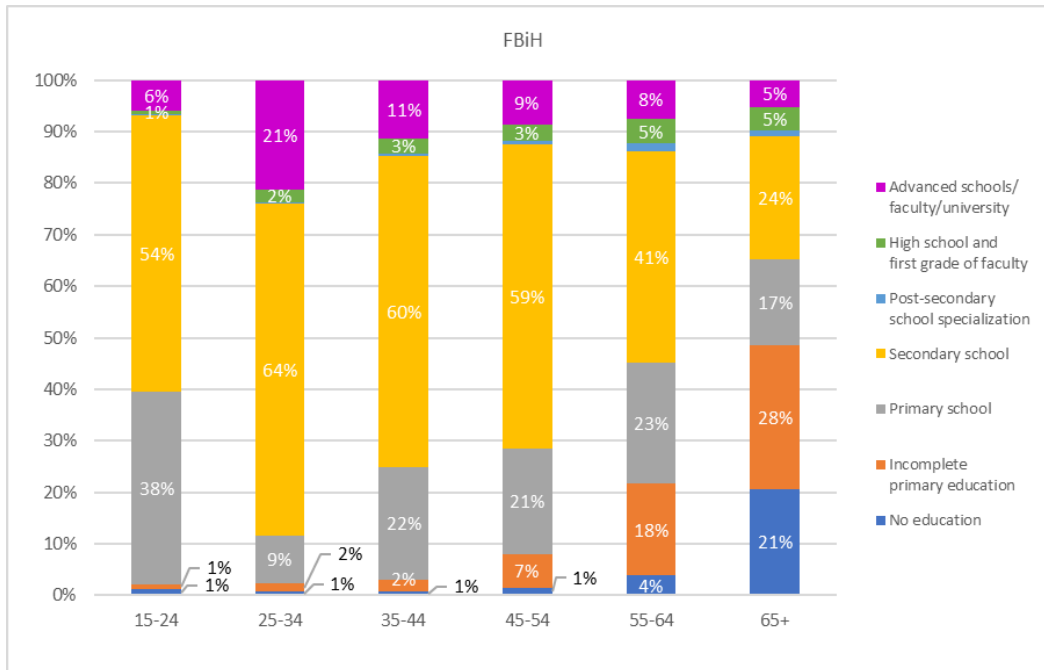


Figure 8 Population 15 years and over by highest level completed education and age in FBiH<sup>28</sup>

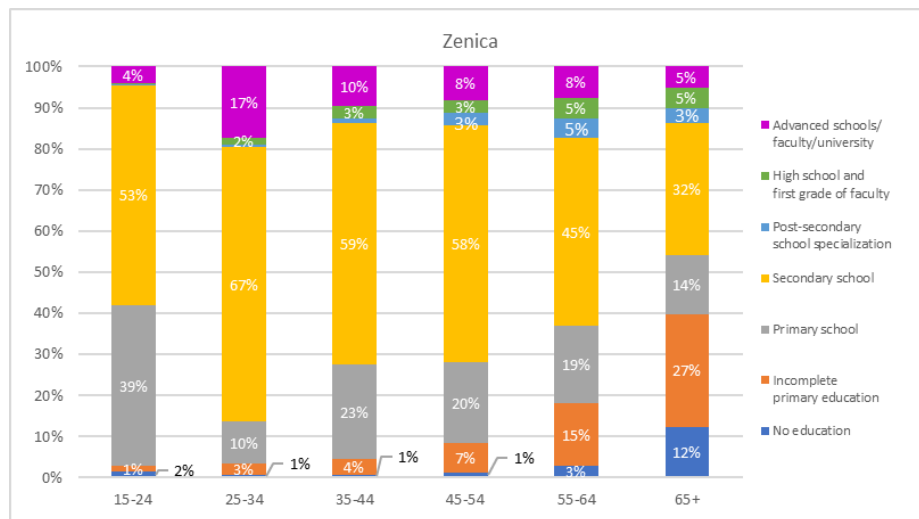


Figure 9 Population 15 years and over by highest level completed education and age in Zenica<sup>29</sup>

The **City of Zenica** is a regional educational center with a developed network of preschool, primary, secondary, university undergraduate and postgraduate education.

<sup>28</sup>Agency for Statistics of BiH: Census 2013 – Characteristics of Education, 2018  
<sup>29</sup>Agency for Statistics of BiH: Census 2013 – Characteristics of Education, 2018

There are 43 primary schools and one special needs school in Zenica. In the school year 2022/2023, 9,334 students<sup>30</sup> were enrolled in primary schools with a decreasing trend over the last 5 years. Secondary education in Zenica is organized in the following secondary schools: 2 Gymnasiums, 2 Mixed secondary schools (Traffic, Civil Engineering and Geodesy, Electrical Engineering, Textiles and Tannery, Other activities), 4 vocational schools (Economics School, Technical School, Vocational Secondary School education and work training; Medical School) and one Music School.<sup>31</sup> In the school year 2022/2023, 3,828 students<sup>32</sup> were enrolled in secondary schools which is 12.4% less students than 5 years ago. Zenica acquired the status of a university city and formed the University with 8 faculties (Faculty of Mechanical Engineering, Faculty of Metallurgy and Materials, Islamic Pedagogical Academy, Faculty of Economics, Faculty of Law, Faculty of Health, Faculty of Pedagogy and Faculty of Polytechnics). The University also includes: the Kemal Kapetanović Institute of Metallurgy, the University Library, and the Center for Innovation and Entrepreneurship. At the University of Zenica, in the academic year 2022/2023, 2,809 students<sup>33</sup> were enrolled.

#### 4.8. Social welfare

Socially sensitive and marginalized groups of the population are individuals, families and social groups who are deprived of the opportunity to achieve key social values such as: the right to work, the realization of creative potential, material well-being, human dignity, social security, future perspectives, etc. These groups of people make up the largest part of the users of public systems that deal with issues of social security and social welfare of citizens in BiH. The quality of life of socially sensitive and marginalized groups often and to a great extent depends on the efficiency of public systems that deal with planning, organizing and implementing social protection and support measures.

The provision of social welfare in the Federation of BiH is carried out through ten cantonal ministries responsible for social protection, municipal centers for social work, municipal social protection services, institutions for the care of children with disabilities, and institutions for the care of children without parental care. Centers for social work also keep records of protective measures imposed in accordance with the Law on Protection from Domestic Violence.

Social welfare beneficiary is any person who, due to particular living conditions or to a special mental or physical situation, used certain forms and measures of social welfare and social work services, once or several times. The categories of beneficiaries of social welfare in the FBiH and the RS, according to official statistics, are as follows: beneficiaries of subsidies, mentally and physically disabled persons, persons with socially unacceptable behavior, mentally ill persons, persons not having sufficient income to support themselves, persons in different social and protective needs, others without a specific category. The number of adult beneficiaries of social welfare in FBiH in 2021 was

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<sup>30</sup>FBiH Institute of Statistics: Zenica-Doboj Canton in figures, 2023

<sup>31</sup><https://www.eduinfo.ba/drzavne-srednje-skole>

<sup>32</sup>FBiH Institute of Statistics: Zenica-Doboj Canton in figures, 2023

<sup>33</sup>*Ibid*

73,275.<sup>34</sup> However, the actual number of beneficiaries is certainly lower because this number also includes people who use their rights to social welfare on several grounds and in several systems.

The main institutions for provision of social welfare are municipal Centers for Social Work whose role is to provide social assistance and protection, especially to families and vulnerable people. The services provided by Centers for Social Work are, among others: providing material and professional assistance and support to individuals and families living in unfavorable circumstances; performing advisory work; providing assistance in solving problems of violence, abuse, neglect and exploitation of children, as well as domestic violence; keeping records and collecting documentation on beneficiaries of social welfare, types of social assistance and spent material resources. Typical types of social assistance are: financial and other material assistance (one-off and permanent financial assistance), training for life and work, accommodation in social protection institutions, temporary accommodation and care in a safe house, disability allowance, allowance for care and assistance for disabled persons, allowance for children, etc.

In the **City of Zenica**, social protection is provided in the PI Center for Social Work, the PI Home and Family for children without parental care, the PI Home for the Elderly, and the PI Center for Children and Adults with Special Needs of Zenica-Doboj Canton. The PI Center for Social Work acts as a public institution for issues in the fields of social security, social care, child care and as custody body with public authority. The Disciplinary Center for Juveniles also operates within this PI. Between 9,000 and 10,000 residents of the City of Zenica exercise rights in the field of social and child care at the PI Center for Social Work. In 2017<sup>35</sup>, a total of 9,767 beneficiaries exercised rights from social, child or family protection, of which 9,461 beneficiaries were entitled to financial assistance. During the same year, the Center provided 20,894 social and other professional services to the population and users, of which over 1,000 were in the field of: the family, school or community. The number of beneficiaries of permanent financial assistance provided to persons unable to work and earn money and with insufficient income was 634, while 377 persons were entitled to one-time financial assistance. 7 families were entitled to other material assistance. Assistance in the form of meals from the Public Kitchen at 10 points in the city and suburbs, was used by 1,044 beneficiaries. Accommodation in a social protection institution was used by 204 persons, whereas 43 children were in foster families. The main activity of the PI Home and Family is accommodation, upbringing, education and training for independent life and work of children and youth placed in the Institution. The main activity of the PI Home for the Elderly Zenica is accommodation for the elderly and people with disabilities without or with minimal family care, with the provision of a certain degree of health care.<sup>36</sup>

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<sup>34</sup>Federal Institute for Statistics: Annual Yearbook FBiH, 2022

<sup>35</sup>Report of Work of PI Center for Social Work Zenica for 2017; <https://dokumen.tips/documents/javne-ustanove-centar-za-socijalni-rad-zenica-u-2017-o-rad-u-2017pdf-centar.html?page=3>

<sup>36</sup>Spatial Plan of the City of Zenica 2016-2036

## 4.9. Health care

The health care of the population in the **City of Zenica** is provided by the following public institutions: Health Center, Cantonal Hospital, Institute of Occupational Medicine of Zenica-Doboj Canton, Institute for Addictive Diseases of Zenica-Doboj Canton, and Institute of Public Health of Zenica-Doboj Canton. There is also a mental health care center within the Health Center. In addition to these public institutions in the field of healthcare, there are also private healthcare institutions, private specialist practices, private dental practices, as well as private pharmacies.<sup>37</sup> Services of PHI Health center are provided in a central facility with four buildings in the Zenica City, and 27 branch family medicine infirmaries spread over the entire area of the City of Zenica.<sup>38</sup> The current capacity of the Cantonal Hospital is 912 beds, 38 beds for hemodialysis and 8 beds in the daily hospital.<sup>39</sup>

## 4.10. Poverty

Poverty in BiH is most often measured by consumption-related indicators, while the multidimensionality of poverty is observed through health, education, employment opportunities and access to social protection institutions.

The only poverty data available for BiH is from a 2015 Household Budget Survey (HBS) conducted by the Agency for Statistics BiH. According to this survey, 16.9% of the population lived in relative poverty. The poor are disproportionately concentrated in rural areas and the poverty rates are higher than in urban areas (19% poverty rate in rural areas and 12% poverty rate in urban areas) and where jobs tend to be scarce and salaries low. Approximately 40% of poor rural workers are employed in the agricultural sector, which faces low and declining productivity and competitiveness. Across entities, poverty remained stable in RS at about 14% between 2011 and 2015, whereas it increased in FBiH from 15% to 17% during the same period.<sup>40</sup>

The number and percentage of the poor are important indicators, but they are still one-dimensional data that do not say enough about living conditions, i.e. how deep that poverty is. This information is obtained from the poverty gap indicator, which measures how far the consumption expenditures of poor households are, on average, away from the poverty line (Table 2).

*Table 2 Main indicators of relative poverty in BiH (2015)<sup>41</sup>*

Indicator	2015
Relative poverty line for single-member household (monthly)	BAM 389
Number of relatively poor households	170,619
Number of relatively poor individuals	505,816

<sup>37</sup>Development Strategy of the City of Zenica 2012-2022

<sup>38</sup><https://dzz.ba/o-nama/>

<sup>39</sup><https://www.kbze.ba/index.php/o-nama#>

<sup>40</sup>The World Bank: BiH Country Partnership Framework for the period FY2023-27, June 2022

<sup>41</sup>Agency for Statistics BiH: Household Budget Survey in Bosnia and Herzegovina in 2015, 2018

Relative poverty rate	16.9%
Poverty gap	24.6

### 4.13. Vulnerable groups

Disadvantaged / vulnerable individuals or groups are potentially disproportionately more affected and less able to benefit from opportunities offered by the projects due to specific difficulties to access and/or understand information about the project and its environmental and social impacts and mitigation strategies. Such groups are also more likely to be excluded from the consultation process. It also includes groups who may be difficult to reach due to communication barriers (language, literacy) and those who are in the informal housing market or informal economy and those who are very poor.

Disadvantaged / vulnerable individuals or groups in the project area include „low-income households“; women; youth; women-headed households; elder-headed households (≥ pension age) without any other household member bringing in income; persons with limited mobility; Roma. Various types of barriers may influence the capacity of such groups to articulate their concerns and priorities about project impacts.

Of particular concern is the impact of transition on already poor groups and individuals: at country-level, informal employment rate amounts to 30% of total employment and over 16% of all workers are employed on temporary contracts, and 24% of employed persons are working poor. A higher incidence of in-work poverty is recorded among self-employed (36%) and casual workers (27.8%), part-time (39.9%) and young workers (31.4%) aged 18-24 years.<sup>42</sup> Women also display lower employment rate, higher unemployment rate, and higher level of informal employment than men.

The human development and economic development trends show vulnerability. Of critical importance, the population is shrinking and ageing. Out-migration is an urgent challenge, representing a loss of young people and skilled workers upon which future sustainable development will depend. Unemployment stands high at 15.7%,<sup>43</sup> particularly among young people (47.3%), women, persons with disabilities, and Roma.<sup>44</sup>

In addition, a total number of 2,193 persons, that is, 21.61% of the total number of workers in all the mines are disabled, of which 2,049 are workers with occupational disability and 144 are war invalids. The highest number of disabled is in the Kreka mine, comprising 544 persons, which is 24.79% of the total number of employees. The disabled employees will be particularly affected by the transition process, requiring targeted social protection measures.

A particularly marginalized group is the Roma, who is the largest ethnic minority group, comprising 25,000-50,000 persons living in what UNICEF describes as multidimensional,

<sup>42</sup>[www.ilo.org/wcmsp5/groups/public/---europe/---ro-geneva/---sro-budapest/documents/publication/wcms\\_774439.pdf](http://www.ilo.org/wcmsp5/groups/public/---europe/---ro-geneva/---sro-budapest/documents/publication/wcms_774439.pdf)

<sup>43</sup>Labor force survey, Agency for Statistics of Bosnia and Herzegovina, 2019

<sup>44</sup>USDSEK Decarbonization of Residential Sector in Bosnia and Herzegovina, SIDA, April 2020

chronic poverty. The largest number live in Tuzla Canton (15,000-17,000), followed by Sarajevo Canton and Zenica-Doboj Canton.<sup>45</sup> The Roma employment rate is less than others, and significantly less for Romani women (30% less for women against 16% less for men). The rate of Roma without any employment experience is also significantly higher than of others. Roma live in severe poverty, on half the income of the total population in the country.<sup>46</sup>

Vulnerable groups within the communities affected by the Project will be further confirmed and consulted through dedicated means, as appropriate. Description of the methods of engagement that will be undertaken by the project is provided in the SEP document developed for this Project.

#### 4.14. Summary analysis of social baseline and main social risks of the Project

Based on the analysis above, it can be concluded that these municipalities will be affected by economic fall-out from mine closure, not only due to their dependence on the coal sector, but also because of already high unemployment. The highest economic and social dependency on mines is registered in Banovići where almost 54% of the total number of employed persons work. Zenica and Tuzla are not as dependent on coal mines as Banovići, as 3% and 5% of the total number of employed persons work in mines in Zenica and Tuzla, respectfully. Unemployment rates in Banovići and Zenica are already above the FBiH average and it is expected that these numbers will be even higher, especially in Banovići, in case of job losses due to mine closure.

In a scenario in which all coal-related jobs are eventually lost, the influx of displaced coal-sector workers into local labor markets would massively increase the pool of registered unemployed and likely exacerbate existing structural skills mismatch. The labor market's capacity to absorb displaced coal sector workers into alternative employment is severely limited, largely due to distortions related to a significant public sector presence, segmentation between good-quality public sector jobs and poor-quality private sector jobs. Most coal sector jobs are in the public sector, pay high wages, and provide good non-wage benefits. This means that most coal sector workers - and especially lower-skilled coal workers - would struggle to find comparable compensation working in other sectors. Therefore, even in case of their re-employment in other sectors, their compensation would not match the current one, which will probably lead to social dissatisfaction.

Unemployment rate in project municipalities is higher among women than men. Although women comprise only a small proportion of the formal mining workforce, they are present in large numbers in the informal, artisanal, and small-scale mining sectors. Irrespective of the size or nature of the coal mining operation, women generally are poorly paid and typically engaged as low-level staff, casual, informal or daily-wage labor within the coal

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<sup>45</sup><https://www.osce.org/files/f/documents/2/a/110495.pdf>

<sup>46</sup>[www.rcc.int/romaintegration2020/files/user/docs/Roma%20Inclusion%20Index%202015.pdf](http://www.rcc.int/romaintegration2020/files/user/docs/Roma%20Inclusion%20Index%202015.pdf)



sector. Gender roles and relations in coal mining communities are at root of gender disparity. The important role of informal labor in coal-based economies further exaggerates the challenge to achieve gender equality during the transition. Rather than perpetuating existing gender inequalities, a transition away from coal needs to be seen as an opportunity to transform current gender relations, creating more gender equal conditions.

The social assistance schemes in BiH are not flexible enough and they lack funding to be able to quickly expand to newly poor.

For the purposes of equipment retrieval from the mine, no physical displacement or land acquisition or loss of employment/income is expected due to the proposed longwall face retrieval activities. Furthermore, all direct social impacts are negligible and manageable with this ESMP and SEP.

## **7. Risk Identification and Mitigation Measures for the Identified Risks**

The proposed longwall face retrieval activities on Raspotočje site have environmental and social impacts that do not go beyond the site itself and can be easily mitigated by applying mitigation measures, i.e. procedures that form an integral part of day-to-day work on the site. The table below outlines all of the identified risks related to the activity that is the subject of this ESMP, together with the mitigation measures, procedures already implemented on Raspotočje site and responsibilities. Since the existing Raspotočje site's workforce will be used for the purposes of this activity, the overall responsibility for implementing the mitigation measures is linked to RMU Zenica and relevant departments within it.



## 8. Environmental and Social Impact Mitigation Plan

The mitigation measures outlined below by each of the identified environmental and social impacts will be implemented during the implementation of works.

Impact	Mitigation measure	Responsibility	Note
<b>Pre-works phase</b>			
<b>Workers' health protection</b>	All workers are required to undergo medical checks and be assessed as fit to work in underground operations	RMU Zenica	
<b>Worker Protection</b>	All workers must have signed contract in place All workers must undergo adequate safety training and have proof of such training	RMU Zenica	
<b>Implementation of works</b>			
<b>Occupational health and safety and workers' protection</b>	<p>There is Occupational Health and Safety Service There is Rescue Service.</p> <p>All safety measures provided for in the applicable technical regulations and rulebooks: "Rulebook on Technical Standards for Underground Exploitation of Coal", "Rulebook on Technical Standards for Electrical Facilities and Installations in Mines with Underground Exploitation of Coal" (Official Gazette of SFRY, numbers: 21/88 and 90/91) and in the Operating Instructions issued by the technical underground operation manager are complied with. Also, special safety measures have to be implemented during the closure of "Raspotočje" underground operation.</p> <ul style="list-style-type: none"> <li>• Workspace must be clean, duly lit and safely braced.</li> <li>• Workers must be issued with technical instruction, which is recorded by their signature in the ledger of issued site technical instructions.</li> <li>• Workers must be equipped with adequate tools.</li> </ul>	RMU Zenica with its relevant services – Occupational Health and Safety Service and Rescue Service	

Impact	Mitigation measure	Responsibility	Note
	<ul style="list-style-type: none"> <li>• Works may be implemented only with tools and accessories which are in full working order.</li> <li>• Workers must have adequate PPE equipment.</li> <li>• No other persons shall be allowed to stay on the site unless needed.</li> <li>• Gather all workers participating in the envisaged works at the rallying point before the commencement of works and brief them on the scope of works and any hazards that might arise during the works.</li> <li>• After the briefing, assign workers to teams with specifically designated team leaders.</li> <li>• Persons in charge from the Mechanical Service shall carry out monitoring and synchronization of activities during the implementation of works.</li> <li>• The team leader or expert personnel from the Mechanical Service shall be immediately notified of any identified hazards that arise during the work, in order not to endanger the workers' safety.</li> <li>• Accessories requiring approvals for the implementation of works shall be used only with certified and signed approval for the specified works with mandatory presence of all persons listed in the approval.</li> <li>• Manual chain hoists that are used must be in working order and adequate for the weight that is lifted.</li> <li>• Persons handling chain hoists must strictly follow the chain hoist handling instructions with which they were previously issued and recorded by their signature in the ledger of issued site technical instructions.</li> <li>• Qualified personnel from the Mechanical Service must be assigned to all activities.</li> <li>• Expert personnel from the Mechanical Service shall be consulted for any ambiguities during the works.</li> <li>• Arbitrary decision-making without prior consultations is prohibited.</li> </ul>		

Impact	Mitigation measure	Responsibility	Note
	<ul style="list-style-type: none"> <li>• The safety of other persons who are in immediate proximity of the implementation of works shall be taken into account during the work.</li> <li>• Installations must be rendered non-active until they are dismantled.</li> <li>• Persons handling and maintaining installations must be issued with the operating and handling instruction and strictly follow all of the specified safety and handling measures, in accordance with the applicable regulations.</li> </ul>		
<b>Excavated material management</b>	Excavated material is mostly coal that was exploited by the mine over several decades and it will be managed in such a manner so as to generate economic profits through the separation system of the entire RMU Zenica, whose closure will be the subject of the ESIA for the underground operation closure design	RMU Zenica with its relevant services	
<b>Risk of landslides or collapse of parts of the underground operation during the implementation of works</b>	<p>Dismantling of the longwall face will be carried out in the dismantling chamber, ca some 30 meters behind its current position. In case of its instability, the longwall face shall be moved further until favorable stability is identified.</p> <p>The practice of slurring and mud plug sealing is planned, where appropriate, to ensure the stability of the underground operation's walls.</p>	<p>RMU Zenica with its relevant services</p> <p>RMU Zenica with its relevant services</p>	
<b>Water supply, municipal wastewater and other infrastructure</b>	RMU Zenica and Raspotočje Underground Operation are situated in the vicinity of the center of the City of Zenica and have all infrastructure connections	<p>RMU Zenica with its relevant services</p> <p>RMU Zenica with its relevant services</p>	
<b>Inputs must be procured from licensed sources</b>	<p>Underground operation timber, steel arch structure, and gas and oxygen shall be procured through the RMU Zenica's Commercial Service.</p> <p>Filter ash for slurring shall be sourced from the Thermal Power Plant Kakanj.</p>	<p>RMU Zenica with its relevant services</p> <p>RMU Zenica with its relevant services</p> <p>(Commercial Service)</p>	

Impact	Mitigation measure	Responsibility	Note
<p><b>Municipal waste management</b></p>	<p>RMU Zenica manages its waste in accordance with the Waste Management Plan.</p> <p>RMU Zenica has a contract for the management of municipal waste and waste that might result from the presence of workers in the underground operation and on site of the mine. The same practice will apply during this activity.</p> <p>In case of the generation of any specific types of waste or hazardous waste, it will be transported by an authorized company for the management of this type of waste.</p> <p>Any incineration of waste in open spaces is prohibited.</p>	<p>RMU Zenica with its relevant services</p> <p>RMU Zenica with its relevant services</p>	
<p><b>Mitigating the risk of coal self-ignition and ensuring workers' safety from the aspect of air in the underground operation (dust)</b></p> <p><b>Risk of CH<sub>4</sub>, CO, CO<sub>2</sub>, SO<sub>2</sub> emissions</b></p>	<p>The underground operation is equipped with a firefighting system</p> <p>The underground operation is equipped with alarms which control air concentrations</p> <p>The underground operation is equipped with a robust ventilation system, i.e. telemetric switchboard (system for remote monitoring and surveillance of gas-ventilation parameters) CTT 63/40, which monitors 40 indicators in the underground operation. The system is equipped with an alarm in case of exceedance of any of the indicators.</p>	<p>RMU Zenica with its relevant services</p> <p>RMU Zenica with its relevant services</p>	
<p><b>Risk of inadequate blasting in the underground operation</b></p>	<p>The blasting shall be carried out according to the procedures taken from the Technical Instruction for the Receipt, Storage, Safekeeping, Issuance, Transportation and Destruction of Explosive Devices</p> <p>The storage facility „Drivuša“ shall be used for storage, while the explosive shall be transported in a registered vehicle. There is a makeshift storage in a separate airstream branch of the underground operation.</p>	<p>RMU Zenica with its relevant services</p> <p>RMU Zenica with its relevant services</p>	

Impact	Mitigation measure	Responsibility	Note
	<p>Workers doing the blasting undergo regular training and education</p> <p>The underground operation is equipped with a rescue service</p> <p>The underground operation is equipped with a communication system</p> <p>According to the design, the transport system is planned to be protected with pieces of rubber in order not to move or be damaged during the blasting</p> <p>An adequate amount of charge will be used, namely the one that is safe for use with the presence of methane (millisecond methane chemical electric detonator with copper jacket).</p> <p>The gaps in which mine charges are placed will be securely plugged with inert material</p>		
<b>Risks of equipment falling during transport</b>	<p>The Supplementary Mining Design (DRP) provides for the dismantling and cutting of equipment on a unit-by-unit basis, and the plan for ensuring its stability during its transport outside the underground operation was prepared.</p> <p>The longwall face will be transported using the existing transport system.</p>	<p>RMU Zenica with its relevant services</p> <p>RMU Zenica with its relevant services</p>	
<b>Risk of noise, vibrations during work</b>	<p>The noise in the operation of machinery itself is to be brought down to the permissible level and the operation of machinery during night is to be avoided. This also includes ongoing controls of the correct functioning of machinery.</p> <p>The noise is regularly measured as part of the monitoring laid down in the environmental permit, the limits are set out in the Law on Protection against Noise of Zenica-Doboj Canton)02-08)</p> <p>It is evident that the use of machines and transport vehicles (trucks) during the implementation of works on the closure of "Raspotočje" underground operation will produce increased noise levels of even over 90 dB (A). However, this</p>	<p>RMU Zenica with its relevant services</p> <p>RMU Zenica with its relevant services</p>	

Impact	Mitigation measure	Responsibility	Note
	<p>noise is strictly linked to the narrow site of the implementation of works. Still, the following mitigation measures for the adverse impacts of noise and vibrations are to be taken in the closure phase:</p> <ul style="list-style-type: none"> <li>• use equipment and devices that have to be certified, i.e. designed or insulated not to emit noise to the external environment over the permissible level,</li> <li>• implement works which would produce loud noise at specified time intervals and according to the relevant regulations and standards,</li> <li>• turn off operating equipment and machinery which are not in use,</li> <li>• avoid the use of multiple types of operating machinery which generates noise of over 90 dB (A),</li> <li>• where the noise level exceeds permissible values, ban the use of machinery which produces impermissibly loud noise, i.e. use modern operating machinery, which is in working order and for which the Contractor is required to have operating licenses.</li> </ul>		
<p><b>Water management in the underground operation</b></p>	<p>Naturally occurring water in the underground operation is collected through a collection system and discharged by RMU Zenica into the recipient, in accordance with the relevant bylaws and relevant concentrations</p> <p>Process water is the water that is collected in water collectors in „Raspotočje“ underground operation. During the closure of the underground operation, all technical regulations have to be complied with, particularly in its treatment of water.</p> <p>Prohibit the spilling of liquid waste into the soil and sewage system of the facilities.</p> <ul style="list-style-type: none"> <li>• properly manage any substances within the grounds to prevent accidental contamination of surface and ground water systems,</li> </ul>	<p>RMU Zenica with its relevant services RMU Zenica with its relevant services</p>	

Impact	Mitigation measure	Responsibility	Note
	<ul style="list-style-type: none"> <li>• properly manage any waste materials that are disposed of on a temporary basis to prevent muddying of surface watercourses,</li> <li>• maintain and empty in a timely fashion on-site septic tanks used to collect sanitary-fecal wastewater,</li> <li>• if a need for the maintenance of machinery on the construction site arises, these activities have to be conducted with the utmost caution to avoid any contamination of the surrounding soil and ground and surface water,</li> <li>• take any activities with a potential to cause contamination with precaution, such as: transport of liquid fuels, storage of hazardous material, parking lots for machinery and vehicles, temporary storage of waste to rule out accidental leakage and contamination</li> </ul>		
<b>Inadequate on-site storage of oils and lubricants in RMU Zenica can lead to their leakage into the soil and soil contamination</b>	<p>Liquid fuels and other liquid substances that will be used have to be kept in closed tanks in a safe place, preferably in a roofed impermeable tub. Sawdust or some other absorbent should be kept on hand if spillage of fuel occurs and emergency remediation should be undertaken. In case of inadvertent leakage, contaminated soil should either be cleaned or removed and disposed of in an adequate landfill. Any oils and lubricants used shall be of mineral origin.</p>	<p>RMU Zenica with its relevant services RMU Zenica with its relevant services</p>	
<b>Maintenance of equipment in the underground operation and potential leakage of oils and lubricants</b>	<ul style="list-style-type: none"> <li>• provide tanks and absorbent in case of accidental contamination</li> <li>• in case of contamination, remove contaminated soil and dispose of it as though if it were hazardous waste.</li> </ul> <p>Fuels and other chemicals shall be stored in a closed and watertight storage, with no third-party access and with special safety secondary containment reservoirs.</p> <p>The wastewater that will be generated from washing of construction and transport vehicles shall be collected by</p>	<p>RMU Zenica with its relevant services RMU Zenica with its relevant services</p>	

Impact	Mitigation measure	Responsibility	Note
	canals and the soil and dust particles shall be left to precipitate before it is then discharged into a natural recipient.		
<b>Storage of equipment outside of the underground operation can lead to leakage of oils and lubricants into the soil</b>	The equipment is planned to be used in other active underground operations and will be stored on-site as short as possible outside of the underground operation in RMU Zenica. In case of servicing and lubrication outside of the underground operation, impermeable mats will be provided to prevent leakage into the soil.	RMU Zenica with its relevant services RMU Zenica with its relevant services	
<b>Local community safety</b>	No impacts on local community are expected and the majority of risks are limited to the site of Raspotočje underground operation Local community will be informed of the works, possible traffic pattern changes outside the mine premises and progress of the entire mine closure process. In this preparatory phase, this Plan will be publicly disclosed and available to all stakeholders with adequate grievance mechanisms. Use covers for transport vehicles to prevent material dissipation, Perform frequent watering of land surfaces.	RMU Zenica with its relevant services RMU Zenica with its relevant services	
<b>Spread of pollution beyond RMU Zenica</b>	Maintenance of vehicles that will be leaving the RMU Zenica's grounds is expected, mitigating the spread of particles	RMU Zenica with its relevant services RMU Zenica with its relevant services	
<b>Safety in case of accidents in the underground operation during the implementation of works</b>	According to the processes performed on Raspotočje site, major accidents can happen as: -multi-site fires on the mine's grounds -explosion in the storage facility for explosive devices	RMU Zenica with its relevant services	



Impact	Mitigation measure	Responsibility	Note
	<p>- water ingress in deep parts of the underground operations</p> <p>In accordance with the law, RMU Zenica has the Plan of Defense against Potential Hazards that Might Arise During the Implementation of Mining Works in the Underground Operation</p> <p>In case of accidents, appropriate procedures to deal with these situations are established (detailed in LMP section). The most dangerous accidents are certainly occurrences of fires and explosions, while floods, earthquakes, spillage and dissipation of hazardous materials can also occur. Any accident event (explosion, fire, flood, pollutant dissipation and the like) must be dealt with as follows:</p> <ul style="list-style-type: none"> <li>• undertake a rapid intervention to remediate the occurrence that has arisen, if possible,</li> <li>• evacuate the employees using the closest evacuation routes and act in an organized manner,</li> <li>• perform necessary first aid and call competent services (ambulance service, firefighters, etc.),</li> <li>• in case of leakage of a hazardous substance into the workspace or environment, it needs to be diluted, neutralized and absorbed.</li> </ul> <p>As mentioned, the most common accidents, i.e. hazards, are a fire and an explosion. A fire and an explosion would lead to emission of hazardous substances into the atmosphere after combustion, posing risks to the workers and residents in the surrounding area.</p> <p>Involve, if necessary, the Staff Headquarters of the RMU Zenica's Rescue Service in the work and decision-making. The Rescue Service has determined evacuation routes and conducts regular trainings and drills.</p>	<p>RMU Zenica with its relevant services</p>	

Impact	Mitigation measure	Responsibility	Note
<b>Post-works phase</b>			
<p>After the completion of the works in this Preparatory Phase, RMU Zenica will carry out regular activities on the mine monitoring, its ventilation and control of any risk parameters, which are consistent with their day-to-day activities. The overall Raspotočje site closure plan will be the subject of a further Environmental and Social Impact Assessment study, in accordance with the World Bank procedures, as an integral part of the <b><i>Just Transition in Select Coal Regions of Bosnia and Herzegovina</i></b> project.</p>			

## 9. Environmental and Social Monitoring Plan

During the implementation of works, RMU Zenica will designate the service that will carry out supervision of activities envisaged in this phase. The service will, in addition to the other parameters that it monitors and reports, also include the following parameters:

Phase	What is monitored	Where is it monitored	How is it monitored	Why is it monitored	Cost	Responsibility
Pre-works	Worker health status	Through the RMU Zenica's Human Resources Service	Relevant documentation submitted	Determination of health status and fitness for work	No additional cost	RMU Zenica
During works	Compliance with occupational health and safety measures	On site of Raspotočje underground operation through the Occupational Health and Safety Service	Through inspection inside the mine	Ensuring worker health and life safety	No additional cost	RMU Zenica
During works	Excavated material management and the underground operation's stability	On site of Raspotočje underground operation	In accordance with the design documentation and existing practices	Ensuring worker health and life safety and safety of the mine itself	No additional cost	RMU Zenica
During works	Procurement of inputs from authorized sources	The RMU Zenica's Commercial Service	Through relevant documentation	To reduce pressure from illegally procured materials	No additional cost	RMU Zenica
During works	Municipal waste management	On site of Raspotočje underground operation	Through relevant documentation	To mitigate the impacts on soil and water	No additional cost	RMU Zenica
During works	Management of other waste types	On site of Raspotočje underground operation	Through waste handover documentation	To mitigate the impacts on soil and water	No additional cost	RMU Zenica
During works	Air quality and emission level in the underground operation and ventilation management	On site of Raspotočje underground operation on ventilation controls	Through waste handover documentation	To mitigate the impacts on worker health, and for general safety and fire risk mitigation	No additional cost	RMU Zenica
During works	Safe blasting process management	On site of Raspotočje underground operation	Through monitoring of compliance with the procedures	Because of worker health impacts and for general safety	No additional cost	RMU Zenica

<b>Phase</b>	<b>What is monitored</b>	<b>Where is it monitored</b>	<b>How is it monitored</b>	<b>Why is it monitored</b>	<b>Cost</b>	<b>Responsibility</b>
<b>During works</b>	Equipment safety during transport	On site of Raspotočje underground operation, at the RMU Zenica's exit	Through monitoring of compliance with the procedures and design documentation	To prevent the equipment from falling and getting damage and to prevent workers from getting injured	No additional cost	RMU Zenica
<b>During works</b>	Noise level	On site of Raspotočje underground operation	Through employee grievances and measurement of noise levels	Because of worker health impacts and for general safety	No additional cost	RMU Zenica
<b>During works</b>	Quantity and quality of the effluent discharged	On site of Raspotočje underground operation at the point of discharge into the recipient	Effluent sampling	To mitigate the impacts on water	No additional cost	RMU Zenica
<b>During works</b>	Leakage of oils and lubricants	On site of Raspotočje underground operation, on the site of works and equipment	Visually, in accordance with the procedures	To mitigate the impacts on soil and water	No additional cost	RMU Zenica
<b>During works</b>	Spread of the impacts beyond the mine, control of the Mine's exits	On site of Raspotočje underground operation, at the RMU Zenica's exit	Visually, in accordance with the procedures	To mitigate the impacts on the broader community	No additional cost	RMU Zenica
<b>During works</b>	Accident management and impacts on community	On site of Raspotočje underground operation  Community impacts through GRM or direct complaints	In accordance with the procedures, through on-site inspection by persons in charge	For general safety of the workers, underground operation and broader community	No additional cost	RMU Zenica
<b>Post-works</b>	The mine's stability, potential collapses	On site of Raspotočje underground operation	Ongoing control and surveillance of the mining facilities and electro-mechanical installations and devices, in accordance with standard procedures	For general safety and further plan of the closure works	RMU Zenica's regular costs	RMU Zenica
<b>Post-works</b>	Ventilation and air quality	On site of Raspotočje underground operation	In accordance with established practice, carry out control and surveillance of the ventilation and proper control of the gas-ventilation parameters	For general safety and further plan of the closure works	RMU Zenica's regular costs	RMU Zenica

<b>Phase</b>	<b>What is monitored</b>	<b>Where is it monitored</b>	<b>How is it monitored</b>	<b>Why is it monitored</b>	<b>Cost</b>	<b>Responsibility</b>
<b>Post-works</b>	Ground water / leachate	On site of Raspotočje underground operation and on pumping stations	Through the Service responsible for drainage of Raspotočje underground operation (Mechanical Service)	For general safety and further plan of the closure works	RMU Zenica's regular costs	RMU Zenica
<b>Post-works</b>	Possibility of fires	On site of Raspotočje underground operation	Through the Service for Ventilation and Maintenance of the Underground Operation and through control over the implementation of fire prevention safety measures by all employees in Raspotočje underground operation through the Occupational Health and Safety Service.	For general safety and further plan of the closure works	RMU Zenica's regular costs	RMU Zenica

## **10. Capacity-Building Needs**

All of the measures outlined in this plan constitute the procedures that are regularly carried out as part of RMU Zenica's Raspotočje underground operation. All of the measures are also specified in the relevant permits, acts and: *Supplementary Mining Design for the Retrieval of MHP Type BW 22/41 POZ with Accessory Equipment from Working Panel OP-5, Tectonic Terrace VIII-e of the Western Part of „Raspotočje“ Underground Operation, and the Closure of RMU „Zenica“ d.o.o.-Zenica's „Raspotočje“ Underground Operation“ – Mining-Mechanical Part (DRP).*

RMU Zenica's workers, who are familiar with the underground operation, situation in the underground operation and all the relevant procedures within which RMU Zenica operates, will be engaged to implement activities in this phase.

## **11. Mitigation Plan Implementation, Timeline, Responsibilities and Costs**

This Plan shall be considered valid from the moment of its disclosure on the RMU Zenica's website and it will last until the completion of works in this phase. RMU Zenica bears a full responsibility, with regular informing of the World Bank team on this project and the Federation Ministry of Energy, Mining and Industry.

Since all of the measures are specified in the Supplementary Mining Design (DRP) documentation, there are therefore no additional costs that this Plan requires.

## **12. Integration of the Plan with the Design Documentation and Works**

The measures in the Plan are fully consistent with the regular activities and operation of Raspotočje site and are within the relevant legal framework within which RMU Zenica operates. All of the measures outlined are also further specified and outlined in the documentation: *Supplementary Mining Design for the Retrieval of MHP Type BW 22/41 POZ with Accessory Equipment from Working Panel OP-5, Tectonic Terrace VIII-e of the Western Part of „Raspotočje“ Underground Operation, and the Closure of RMU „Zenica“ d.o.o.-Zenica's „Raspotočje“ Underground Operation “ – Mining-Mechanical Part.*

## **13. Disclosure, Public Consultations and Stakeholder Engagement**

This Environmental and Social Management Plan will be disclosed on the RMU Zenica's website and in the other forms of public information seven days before holding a public consultation event, which will be held on site of the mine or in the closest place that is convenient for holding such gathering. After the public consultation event, all comments or grievances will be incorporated in this Plan, which will be disclosed again, together with the meeting minutes and as the final version, on the RMU Zenica's website, during the activities concerned. In addition to this document, how further questions, grievances or comments are to be communicated will be indicated.

## **14. Grievance Mechanism**

Grievance includes complaints and suggestions on project implementation. Key objective of grievance mechanism is to ensure efficient manner to address grievances. The WB expects each project to establish such a mechanism in line with ESS 10, at early stage of project development in order to be able to address specific issues in adequate and timely fashion.

The Project will help improve the existing institutional grievance mechanisms to ensure all grievances are recorded and monitored, with the aim to increase transparency and accountability, as well as to reduce risk of Project's adverse environmental and social impact.

A Project level GRM will consist of a Central Grievance Redress Committee (CGRC) established and administered by the PIU and sub-project specific Local Grievance Redress Committees (LGRC) (collectively referred to as GRM) established and administered by the Local Governments. The PIU will ensure that the involved Local Governments dedicate one officer to the task of admission of grievances (local municipal officer).

The CGRC shall be effective immediately after effectiveness of the Project, in order to manage and appropriately answer complaints during its different phases while the LGRC shall be effective upon decision on each new sub-project has been taken. The CGRC will be responsible for: collecting data from LGRC serving as local admission points on the number, substance and status of complaints and uploading them into the project database. Representatives of CGRC and LGRC will exchange all information on received

complaints, records, and possibly other important information on sub-projects once a week.

**To ensure functioning of the grievance mechanism during the implementation of preparatory works in the form of equipment (longwall face) retrieval from Raspotočje site, which will be carried out before effectiveness of the Project, the LGRC for RMU Zenica will be effective before the commencement of works on equipment (longwall face) retrieval. Considering that the other sub-projects envisaged by the project will not start before effectiveness of the Project, in the phase before effectiveness of the Project the LGRC for RMU Zenica will function independently without the CGRC which shall be established at the level of the Federation Ministry of Energy, Mining and Industry (FMERI) after effectiveness. Regardless of this, the LGRC for RMU Zenica will inform the FMERI on a monthly basis of the LGRC's functioning.**

To ensure RMU Zenica LGRC access, potential beneficiaries, communities and other stakeholders may submit grievances through channels as outlined below. The RMU Zenica LGRC will provide the opportunity for stakeholders to receive continued feedback on the sub-projects and also to provide resolution of their individual grievances during implementation. Therefore, the GRM shall serve as both information center and grievance mechanism, available to those affected by implementation of all Project sub-components and is applicable to all Project activities and relevant to all local communities affected by project activities.

The GRM shall be responsible for receiving and responding to grievances and comments of the following four groups:

- A person/legal entity directly affected by the Project, potential beneficiaries of the Project;
- A person/legal entity directly affected by the Project through land repurposing;
- Stakeholders - people with interest in the Project; and
- Residents/communities interested in and/or affected by project activities.

However, the grievance mechanism for project workers required under ESS 2 will be provided separately with details provided in the Labor Management Procedure, which is described in Chapter 15.9 of this ESMP

In the phase before effectiveness of the Project related to equipment retrieval from Raspotočje underground operation, RMU Zenica is responsible for establishing functioning LGRC and informing stakeholders about the LGRC role and function, the contact persons and the procedures to submit a complaint in the affected areas. Information on the GRM will be available:

- on the websites of the PIU and RMU Zenica;
- on the notice boards and websites of Local Governments;



Feedback and complaints received through the LGRC will be aggregated and included in regular quarterly reports.

### 1.1 Raising Grievance

Effective grievance administration strongly relies on a set fundamental principle designed to promote the fairness of the process and its outcomes. The grievance procedure shall be designed to be accessible, effective, easy, understandable and without costs to the complainant. Any grievance can be filed personally or by telephone or in writing by filling in the grievance form by phone, e-mail, post, fax or personal delivery to the addresses/numbers to be determined. All grievances can be filed anonymously. The access points and details on local entry points shall be publicized and shall be part of the awareness building once locations of the sub-projects are known. A sample grievance form is provided in **Annex 1** of this SEP.

### 1.2 Grievances Administration

Any grievance shall follow the path of the following mandatory steps: receive, assess and assign, acknowledge, investigate, respond, follow up and close out.

Once logged, the LGRC shall conduct a rapid assessment to verify the nature of grievances and determine on the severity. Within 3 days from logging it will acknowledge that the case is registered and provide the grievant with the basic next step information. It will then investigate by trying to understand the issue from the perspective of the complainant and understand what action he/she requires. The LGRC will investigate the facts and circumstances and articulate an answer. The final agreement should be issued and grievant be informed about the final decision not later than 30 days after the logging of the grievance. Closing out the grievance occurs after the implementation of the resolution has been verified. Even when an agreement is not reached, or the grievance was rejected, the results will be documented, actions and effort put into the resolution. If the grievance could not be resolved in amicable endeavor, the grievant can resort to the formal judicial procedures, as made available under the FBiH legal framework. Logging a grievance with the LGRC does not preclude or prevent seeking resolution from an official authority, judicial or other at any time (including during the grievance process) provided by the BiH legal framework.

In case of anonymous grievance, after acknowledgment of the grievance within 3 days from logging, the LGRC will investigate the grievance and within 30 days from logging the grievance, issue the final decision that will be disclosed on the RMU Zenica website.

The RMU Zenica LGRC shall keep a grievance register log, which will include grievances received through all admission channels, containing all necessary elements to disaggregate the grievance by gender of the person logging it as well as by type of grievance. However, the personal data of each grievant shall be protected under the Law

on Personal Data Protection. Each grievance will be recorded in the register with the following information at minimum:

- description of grievance,
- date of receipt acknowledgement returned to the complainant,
- description of actions taken (investigation, corrective measures),
- date of resolution / provision of feedback to the complainant,
- verification of implementation, and
- closure.

In case a grievance cannot be resolved in manner satisfactory to the complainant he/she has the right for an appeal. In such cases the resolution of the grievance will be reviewed by a commission at the level of FMERI. This will serve as second tier grievance level. The commission will consist of three appointed members that are not directly involved in Project implementation. The commission will acknowledge the receipt of the appeal within 3 days and issue the final decision within 5 days of the receipt of the appeal. The decision of the commission will entail a detailed explanation of the grievance resolution process as well as the explanation of the final decision and guidance on how to proceed if the outcome is still not satisfactory for the complainant.

### 1.3 Grievance and Beneficiary Feedback Reporting

The role of the GRM, in addition to addressing grievances, shall be to keep and store comments/grievances received and keep the Central grievance log that will be administered by the RMU Zenica LGRC in the phase before effectiveness of the project.

### 1.4 Grievance Log

The RMU Zenica LGRC will maintain centralized grievance log to ensure that each complaint has an individual reference number and is appropriately tracked and recorded actions are completed. When receiving feedback, including grievances, the following is defined:

- Type,
- Category,
- Deadline for resolving the appeal, and
- Agreed action plan.

Each complaint should be assigned with a reference number and is appropriately tracked and recorded actions are completed. The log should contain the following information:

- Name of the grievant, location and details of the grievance,
- Date of submission,
- Date when the Grievance Log was uploaded onto the Project database,
- Details of corrective action proposed,

- Date when the proposed corrective action was sent to the complainant (if appropriate),
- Date when the grievance was closed out,
- Date when the response was sent to the grievant.

#### 1.5 Grievance Admission Channels

Any grievance can be brought to the attention of the GRM by filling the grievance form in hard copy or on-line, or in any other format as chosen by the grievant. The sample grievance form is provided in **Annex 1**. Any type of grievance can be submitted by mail, fax, phone, e-mail or in person using the below access details:

Attention: RMU „Zenica“ d.o.o. Zenica Local Grievance Redress Committee

Address: Stjepana Radića 2, 72000

Telephone: +387603196974

E-mail: rmuzenica.zalbe@outlook.com

#### 1.6 Monitoring and Reporting on Grievances

The monitoring reports to the WB shall be submitted through the PIU, which shall include a section related to Grievance Mechanism which provides updated information on the following:

- Qualitative data on number of received grievances (applications, suggestions, complaints, requests, positive feedback) and number of resolved grievances;
- Quantitative data on the type of grievances and responses, issues provided and grievances that remain unresolved;
- Level of satisfaction by the measures (response) taken;
- Any corrective measures taken.

#### 1.7 WB Grievance Redress System

Communities and individuals who believe that they are adversely affected by a WB supported project may submit complaints to existing project-level grievance redress mechanisms or the WB's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the WB's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the WB's corporate Grievance Redress Service (GRS),

please visit <http://www.worldbank.org/en/projects-operations/products-and-services/grievance-redress-service>. For information on how to submit complaints to the WB Inspection Panel, please visit [www.inspectionpanel.org](http://www.inspectionpanel.org).

## 1.8 Grievance in the national legislation

In addition to the GRM, legal remedies available under the national legislation are also available (courts, inspections, administrative authorities etc.), some of which are listed in this section.

The FBiH Law on Administrative Procedure regulates how public administrative bodies in BiH decide on the rights, obligations or legal interests of citizens, legal entities, or other parties. Regulations on public administration in BiH, prescribe the obligation of administrative bodies to resolve requests received within prescribed deadlines at all levels of government. Governmental bodies are obliged to **consider and respond to complaints** and proposals submitted by all natural and legal persons, including complaints about the work and the work and attitude of employees. These laws and regulations exist both at the level of the State of BiH and in its Entities. In the administrations of BiH (Law on administration<sup>[1]</sup>), the complaint must be responded to within eight days from the day of receipt of the complaint, i.e. a written response must be given on the measures taken in relation to a petition, proposal, or complaint. The administrative procedure is initiated by the competent authority ex officio or at the request of the party. The body responsible for resolving decides on the matter which is the subject of the proceedings. The party has the right to appeal against the decision made in the first instance. An appeal against the decision shall be filed within 15 days from the day of delivery of the decision. Certain issues of procedure for a certain administrative area may only exceptionally, by a special law, be regulated differently than regulated by this law, if it is necessary for different treatment in these matters, provided that they may not be contrary to the principles of this law.

Article 76 of the **Law on Organization of Administration Bodies in FBiH**<sup>[2]</sup> stipulates the right of citizens to submit petitions and complaints to the head of the administrative body, and in the municipality - the municipal mayor, that is, in the city - the mayor. They can be submitted in the case if civil servants in administrative bodies do not resolve citizens' requests within the prescribed time limits, or from citizens they are looking for unnecessary and redundant evidence, or they are looking for evidence that they must obtain by official duty, or if in any other way they delay the resolution of the request citizens, or prevent have the right to with such behavior. Actions like that represent a serious breach of official duty.

The head of the administrative body is obliged to investigate the petition or complaint immediately, and no later than within five days from the date of receipt of the petition or

complaint, and if she/he finds that it is founded, she/he is obliged to take measures provided for by law (initiate disciplinary proceedings or take other measures) against the official whose work the petition or complaint relates to, and at the same time submit a written response to the person submitting the petition or complaint on the measures taken. Citizens may also contact the **administrative inspection**.

The **Board for Appeals** was established in the FBiH, based on the FBiH Law on Civil Service. The Board decides on appeals sent from: federal civil service bodies; civil service bodies of municipalities, cities and cantons (Herzegovina-Neretva, Central Bosnia, Zenica-Doboj, Sarajevo, Una-Sana, Tuzla, Herceg-Bosnia and Bosnia-Herzegovina). The Board is responsible for deciding on all appeals filed against the decisions of the heads of civil service bodies, appeals filed against the decisions of the disciplinary commissions and on appeals filed against the decisions of the director of the FBiH Civil Service Agency. Appeal cases are formed on the occasion of an appeal against a first-instance act that decided on employment rights in the field of admission to the civil service, assignment to a workplace, transfer, promotion, performance evaluations, salaries and benefits, suspension, disciplinary responsibility, termination of civil service, as and other rights from the employment relationship of civil servants and state employees.

In addition, Article 46 of the **Law on Principles of Local Self-Government in the Federation of BiH**<sup>[3]</sup> stipulates that bodies of local units of self-government shall have the duty to enable citizens and legal entities to submit letters and objections to their work, the work of their institutions and agencies, and improper conduct of employees in those agencies in communication with citizens who seek to achieve their rights and interests or fulfill their civic duty. Bodies of local units of self-government are obliged to provide citizens and legal entities with a reply to their letters and objections within 30 days from the date of letter or objection.

**The Institution of the Human Rights Ombudsman in BiH** is an independent institution that deals with the protection of the rights of natural and legal persons, and in accordance with the Constitution of Bosnia and Herzegovina and the international agreements contained in the appendix to the Constitution. It has a broad mandate and may be addressed by each natural person or institution that has legitimate interests. The Institution of the Ombudsman is also the central institution for protection against discrimination, and that it can act towards all natural and legal persons, according to the **BiH Law on Prohibition of Discrimination**, and the enforcement of the **BiH Law on Freedom of Access to Information**. Any natural or legal person who has a legitimate interest, regardless of citizenship, race, gender, religious or national affiliation, can apply to the Human Rights Ombudsman of Bosnia and Herzegovina. A complaint addressed to the Institution will not cause any criminal, disciplinary or any other sanctions for its applicant.

Complaints may be filed in writing, by mail, fax, or email, or through personal contact. The Head Office is in Banja Luka, with Regional Offices in Sarajevo, Mostar, and District of Brcko. In addition, there is Field Office in Livno.

In case The Ombudsman determines that a violation of rights, recommendations to the relevant organs/institutions of will be issued with directions for how to restore the violated rights or how to remedy poor administrative performance. The Ombudsman institution assists the citizen on how to utilize the most adequate legal remedies or advise them which institution to address.

The Ombudsman has authority to review all official documents related to administrative files and request the cooperation of an official authorized to resolve administrative matters in administrative proceedings and other officials especially in obtaining the necessary information, documents and files related to the administrative matter which is the subject of the administrative procedure, and it can request annulment of the decision. The Ombudsman institution in 2019 registered more than 3 000 cases of which around 80% relates to violations of civil and political rights, rights in the judiciary and administration and economic, social, and cultural rights.<sup>[4]</sup> The Ombudsman can issue authoritative, but legally non-binding recommendations – and it is not unusual for the relevant authorities to ignore the recommendations from the Ombudsman.<sup>[5]</sup>

The Ombudsman mandate has several functional elements, which include not only the handling of complaints and individual procedures initiated ex officio, but also monitoring and preventive action. It has established a mechanism for monitoring the situation in this area in such a way that it monitors the execution of the obligations of the public body established by the BiH Law of on Freedom of Access to Information, and acts on the complaints sent to it by the parties.

<sup>[1]</sup> Law on Administration ("Official Gazette of BiH", No 32/02, 102/09 and 72/17);

<sup>[2]</sup> "Official Gazette of the FBiH", no 35/05).

<sup>[3]</sup> "Official Gazette of the FBiH", no 49/06).

<sup>[4]</sup>[https://ombudsmen.gov.ba/documents/obmudsmen\\_doc2020121715362648eng.pdf](https://ombudsmen.gov.ba/documents/obmudsmen_doc2020121715362648eng.pdf)

<sup>[5]</sup> In 2019, the Ombudsman issued 304 recommendations in 374 cases, of which 105 were fully implemented, nine partially implemented, but as many as 124 recommendations received no response from the responsible authority (ibid).

Internal to the mine and the internal resolution of grievances, the worker grievances and complaints commission, which includes a representative of the trade union, was appointed by a Director decision

# **LABOR MANAGEMENT PROCEDURES**

## 15. Labor Management Procedures

Labor Management Procedures-LMP have been prepared for Just Transition in Select Coal Regions of Bosnia and Herzegovina Project. Project Implementation Agency, Federation Ministry of energy, Mining and Industry disclosed and consulted the document during October 2024<sup>47</sup>.

The Procedures prescribed in this Environmental and Social Management Plan are fully compliant with the Labor Management Procedures for the Just Transition Project.

### 15.1. Categories of Workers

According to the World Bank ESS2 on Labor and Working Conditions, workers are categorized as direct workers, contracted workers, community workers and primary supply workers. All the workers engaged in preparation works (equipment – long wall retrieval) will be exclusively workers of Zenica Brown Coal Mine. Since Zenica Brown Coal Mine is owned by Elektroprivreda BiH [Bosnia and Herzegovina Power Utility], which is in turn owned by the Government of the Federation of Bosnia and Herzegovina (Borrower under BiH Just Transition Project), these workers belong to the **direct workers** category, according to the World Bank definition.<sup>48</sup>

### 15.2. Key Labor Risks

Main labor force risks that may arise from the nature of the work to be undertaken include the following: underground work, work in confined space and work at heights, working equipment hazards, trip and fall hazards, exposure to hazardous materials and electric shock hazards when using tools and machinery, infectious/communicable diseases. Since the construction works will involve hazardous work, persons under the age of 18 will not be engaged under the project.

It is anticipated that the workers engaged in equipment retrieval will be exposed to occupational health and safety hazards, primarily including, but not limited to:

- work at height;
- work underground and work in confined space;
- danger of tripping and falling;
- dangers from excavation works;
- fall of equipment on workers;

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<sup>47</sup><https://fmeri.gov.ba/vijesti/posts/2024/october/javni-poziv-za-uvjed-u-dokumente-i-odrzavanje-javne-rasprave-vezano-za-realizaciju-projekta-pravedne-tranzicije-u-odabranim-regijama-bogatim-ugljem-u-bosni-i-hercegovini/>

<sup>48</sup>People employed or engaged directly by the Borrower (including project proponent and Project implementation agencies) to work specifically in relation to the Project. Therefore, a “direct worker” is a worker with whom the Borrower has a directly signed employment contract and specific control over the work, working conditions and treatment of the project worker. The worker is employed or engaged by the Borrower, paid directly by the Borrower and subject to the Borrower’s day-to-day instruction and control.



- lifting heavy objects;
- hazards related to material handling (e.g., lifting, hitting, crushing, etc.);
- work on steep and unsafe terrain;
- work with electrical equipment;
- exposure to toxic waste and gases, dust, noise and vibrations;
- work in a non-physiological body position;
- welding hazards (fumes, burns and radiation);
- steel erection (towers) hazards;
- excavations, earth works, vibration hazards;
- vibration of heavy construction equipment;
- use of rotating and moving equipment;
- lack of workers' awareness on occupational health and safety requirements, such as use of personal protection equipment (PPE) and safe workplace practices.

FBiH legislation requires *each employer to assess labor risks specific to each job/position*. The employer is obliged to prepare a document on workplace *risk assessment*, which contains a description of work process with an assessment of risk of injuries or health damage at the workplace and measures to eliminate or minimize risks to improve occupational health and safety and health aspects at workplace. The employer is also obliged to train the workers on safe work. With use of protection equipment, proper training and organization of site, risks of work-related injuries and occupational health hazards can be significantly reduced.

Zenica BCM performs regularly occupational health and safety trainings for all employees.

“Zenica” Brown Coal Mine Ltd. – Zenica Subsidiary’s Rulebook on Occupational Health and Safety defines unified occupational safety measures aimed to protect workers lives and health, focusing on creating safe working conditions and eliminating causes of injuries at workplace, occupational and other diseases and health hazards at work, including improved protection of workers to create adequate working conditions at “Zenica” Brown Coal Mine Ltd. – Zenica (hereinafter: the Company).

Occupational safety, pursuant to that Rulebook, includes set of measures and activities aimed to create safe working conditions in line with the provisions of Mining Law and Occupational Health and Safety Law and other regulations on occupational health and safety which govern and define the following:

- general occupational safety measures,
- occupational safety measures under the specific circumstances and occasions,
- jobs performed under specific working conditions,
- rights, obligations and responsibilities of workers related to occupational health and safety,

- rights, obligations and responsibilities of managers and workers with special authorities and responsibilities, and other workers responsible to implement occupational health and safety measures,
- organization of occupational health and safety at the Company,
- injuries at work: identification of causes of injuries, record keeping and statistics,
- rescue service and fire control service,
- healthcare of workers,
- worker's training and occupational health and safety knowledge evaluation,
- personal protection equipment and resources,
- special protection of youth, female workers and disabled workers with remaining ability to work,
- periodic inspection and tests of equipment, devices and working conditions,
- sanitary and health conditions at workplace,
- other occupational safety measures.

Main responsibility of implementation of occupational health and safety and fire control measures rests with individual Organizational Units of the Company, while Company's Occupational Health and Safety Service and its staff members are responsible to work on general improvement and identification of adequate and safe working conditions in the Organizational Units in accordance with scientific and technological development in order to improve occupational health and safety in all business processes. In the Company's Organizational Units workers benefit occupational health and safety and their personal safety and protection of assets by consistent implementation of occupational health and safety regulations and norms, each worker within his/her scope of work.

### **Regulations Governing Occupational Health and Safety Measures**

To protect workers lives and health and Company's assets, Organizational Units are obliged to implement occupational health and safety measures prescribed by the Mining Law, Occupational Health and Safety Law, Environmental Protection Law and applicable technical regulations developed based on laws and provisions of the Occupational Health and Safety Rulebook, as well as other regulations related to occupational health and safety, fire control, working conditions and environment. Occupational Health and Safety Rulebook defines occupational health and safety measures in line with o the Company-specific circumstances and hazards, which measures have to be complied with, along with the occupational health and safety measures prescribed by the law.

### **General Occupational Health and Safety Measures**

Occupational health and safety is ensured by implementation of modern technical, health, social and other measures aimed to prevent and eliminate cause of injuries and health hazards at workplace, which includes the following:

1. Execution of works in line with the Mining Law, Occupational Health and Safety Law and other laws and regulations developed based on such laws and norms related to certain aspects,
2. Execution of works in accordance with the approved desing documentation,

3. Execution of works in line with instructions provided by responsible manager of the Organizational Unit,
4. Construction of working and auxiliary premises in line with relevant requirements,
5. Work process management in accordance with the approved design documentation and the provided instructions, depending on specific tasks and works to be performed,
6. Development of technical protection devices on machines and equipment,
7. Development of necessary hygienic and sanitary facilities which enable workers' personal and general hygiene to be maintained,
8. Provision of personal protection equipment and resources for workers,
9. Training of workers on safe execution of tasks to which they are deployed,
10. Implementation of health prevention measures,
11. Implementation and control of fire-fighting and fire control equipment and measures.

### **Occupational Health and Safety Measures Related to Working Conditions**

Occupational health and safety is an integral part of work process of the Company's Organizational Units and it has to be implemented and improved in parallel with organization of work and improvement of work organization and technological process of work in such a way that any change of work organization and technological process, any reconstruction, investment and purchase of assets in the Organizational Unit must be accompanied by adequate occupational health and safety measures and adequate working conditions.

### **Working Conditions**

Working conditions must be ensured in such a way that work at any workplace can be performed by a worker with necessary skills and due attention, without any life or health hazards for that particular worker or other workers, without any hazard for assets directly or indirectly handled or maintained by such worker.

### **Occupational Health and Safety Improvement**

Company's Development Plans and Programs must envisage measures aimed to improve occupational health and safety and create better working conditions in line with scientific and technological developments, as well as necessary financing to implement the elements envisaged in such Plans and Programs. Company's Annual Work Plan should include financial resources necessary for implementation and improvement of occupational health and safety measures.

### **Specific Working Conditions**

Jobs and tasks to be performed in workplaces where worker may potentially suffer injuries or health damage, as such workplaces are, based on their specific nature and potential hazards, classified as work under specific working conditions, require implementation of special protection measures, namely workers performing such work must meet specific physical and mental health requirements and must have skills required for work under such circumstances and meet requirements related to age and gender.

Workplaces and tasks which are realistically associated with increased hazards in terms of injury or health damage, which adverse effects on the ability to work and health cannot be fully mitigated by protection measures, are considered to be jobs or tasks under specific or difficult working conditions.

Specific and difficult working conditions are defined based on technological process monitoring and review, by continuous monitoring of micro-climate, biological, physical and chemical hazards in the working environment, noise, vibrations, poor lighting, if those parameters do not comply with requirements specified in technical regulations.

Specific or difficult working conditions, unless defined by regulations, are established by Company-level technical committee consisting of technical experts from appropriate services.

In its work, the committee may cooperate with other institutions responsible of these issues.

### **Tasks Associates with Increased Hazard**

Jobs and tasks associated with increased hazard include:

1. Work under the ground, namely any work in underground workings,
2. Any jobs on the surface/open pits which are subject to double credit working history
3. Work with and handling of explosive, combustible and toxic material,
4. Work in boiler house, in case it is not possible to ensure comfortable working conditions,
5. Work with equipment under pressure,
6. Diesel locomotive driver,
7. Operator of heavy mining and construction machinery,
8. Work in lamp room,
9. Work with electrical and gas welding,
10. Work in sub-stations,
11. Work on transmission lines, power grid and work at height,
12. Rescue team members,
13. Firefighters,
14. Work on assets rescue in organizational units subject to double credit working history.

### **Work under Health Hazard Conditions**

Work and tasks associated with health hazard include:

1. Work performed under inadequate climate and/or working conditions (temperature, humidity, vibrations, excessive noise, wind, etc.),
2. Exposure to toxic gasses and dust,
3. Work in polluted atmosphere (welding, painting, varnishing, forging and drilling)
4. Work which produces excessive dust and other hazardous material above the allowed limits,

5. Manual handling of weight above 40 kg.

### **Workers' Health Checks**

Lists of jobs associated with the increased hazard and work under health-hazard conditions shall be monitored by HR department by Company's social workers, upon proposal by occupational medicine specialists and based on his/her observations, adequate measures shall be taken, namely health checks shall establish if the worker meets health requirements for certain jobs aimed to protect worker's health and prevent further deterioration of worker's health.

### **SPECIAL OCCUPATIONAL HEALTH AND SAFETY MEASURES**

Special occupational health and safety measures shall be applied for underground operations as well as in open pit work, in line with technical regulations and technical norms for underground and open pit mining.

### **SPECIAL OCCUPATIONAL HEALTH AND SAFETY MEASURES FOR UNDERGROUND OPERATIONS**

#### **Underground Mine Entry and Exit Control**

Underground mine unit must maintain separate records on all persons entering and exiting the underground mine and in case of open pit mining, records shall be kept on when each worker starts and ends work in open pit.

Records on underground mine entries shall be maintained by technical supervision staff in Entry Log and Exit Log. Entry Log shall include person's name, entry date and time and exit time, miner lamp number and self-rescue number. If established that any worker has not exited the underground mine, shift supervisor shall be obliged to inform the underground operations manager or unit manager thereon and take actions to find such worker.

Underground operations manager shall prescribe entry and exit control, lamp delivery and self-rescue by a separate instructions thereon.

#### **Records Maintenance on Persons Entering Underground Mine**

Access to the Company's yard (underground mine entrance, buildings, separation facility, tailings) is forbidden to persons who are not Company's employees, unless they are granted special permission.

Persons who are not permanently engaged in underground operations or who are not employees of given underground unit, shall be granted underground mine entrance permission by underground operations manager upon approval by technical executive

director. Separate records shall be maintained on persons visiting underground operations or workings or operating units based on the authorization to perform official duties issued by responsible manager of the Company, as follows:

- name,
- date, hour and minute of entering the underground mine,
- internal lamp number,
- person's signature at entrance,
- date, hour and minute of exit,
- person's signature at exit.

### **Entrance Not Allowed into the Company's Yard**

Drunk persons shall not be allowed to enter the Company's yard, irrespectively of whether they are Company's employees or not.

### **Approval to Enter the Underground Mine**

Persons who are not Company's employees shall require separate written approval to enter the underground mine, which approval shall be issued by technical executive director upon approval by the Company director. Persons entering the underground mine based on such approval shall be accompanied by reliable staff member assigned by the underground operations manager.

The following persons: representatives of relevant inspection authority, rescue service and first responders in case of emergency intervention shall be allowed to enter the underground mine without separate approval to perform their official duties.

### **Emergency Preparedness and Rescue Plan in Case of Hazards and Accidents**

Organizational part of the Company – underground operations unit must have Emergency Preparedness and Rescue Plan. Underground operations manager shall be responsible to develop such Plan.

Emergency Preparedness and Rescue Plan, satisfactory for Occupational Health and Safety Service, shall be approved by technical executive director.

In case of any material change of underground operations plan, ventilation scheme and exit corridors, underground operations manager shall be obliged and responsible to update the Plan without any delays and submit it to the technical executive director for approval.

Emergency Preparedness and Rescue Plan shall be produced in six identical copies and mandatory shared with:

1. Technical Executive Director,
2. Occupational Health and Safety Service,
3. Central Rescue Station Manager,
4. Unit Rescue Team,
5. Unit Attendant,
6. Unit Manager.

### **Emergency Preparedness and Rescue Plan Practical Implementation – Drill**

Unit manager shall be obliged to inform supervisory and technical staff, blasters and rescue team members on the Plan and withdrawal corridors as well as on the procedures in case of danger and accident.

Unit manager shall be responsible to organize, minimum twice a year and mandatory after any material alteration of withdrawal corridors, on-site drill in the underground mine with the above referred staff and other underground operations workers to familiarize them with practical implementation of the Emergency Preparedness and Rescue Plan. The drill, namely withdrawal of workers from the underground mine in accordance with the Emergency Preparedness and Rescue Plan shall be implemented by Shift Supervisor.

### **Mining Supervision Ledger**

All Units of the Company shall be obliged to maintain Mining Supervision Ledger.

Mining Supervision Ledger shall record all orders by Federation Mining Inspection issued onsite when performing inspection surveillance of mining facilities, plants, in case of immediate threat on people's life and health or substantial material damage.

Mining Supervision Ledger shall also record orders by technical executive director and occupational health and safety manager issued onsite during review of mining works, facilities and plants, in case of immediate threat upon people's life and health or substantial material damage.

Mining Supervision Ledger must be properly bound and numbered and must be kept permanently.

Mining Supervision Ledger shall be maintained for each operating unit separately, and operations manager shall be responsible of regular maintenance thereof.

### **Operating Unit Logs**

Each Operating Unit of the Company must maintain Daily Report Logs (Briefing Logs) recording not only production performance and provided service, but also occupational health and safety issue. Underground operations units must also maintain ventilation log, explosive ordnances log,

inactivated explosive ordnances log and other prescribed logs.

Other logs shall be maintained as needed, as prescribed below in this Rulebook.

All the logs shall be maintained as technical documentation of permanent value.

### **Execution of Mining Works**

Mining works shall be performed only based on the approved designs, as follows:

1. Main mining design,
2. Supplemental mining design,
3. Simplified mining design.

### **Contract between the Company and Mining Works Contractor**

If the underground operation or open pit works are performed by third party contractor, relations between the Company and mining works contractor, their mutual right and obligations related to occupational health and safety, shall be closer regulated by a

separate contract which shall include implementation of occupational health and safety measures by both parties and in particular the following: organization and working hours, coming to and leaving the workings, gas control at workings, explosive handling control, use of lamp room and bathrooms, availability and repair of monitoring equipment, availability and use of personal protection equipment, reporting and information sharing on substantial changes and significant developments in the underground operations, obligations related to project documentation, technical instructions, approvals for works and other obligations and responsibilities related to control and supervision of the implementation of the prescribed occupational health and safety measure, and other related issues.

The contract must include the obligations related to occupational health and safety during execution of works, responsibilities of the contractual parties related to occupational health and safety and contractor's obligation to comply with the applicable occupational health and safety regulations, laws and this Rulebook. In terms of execution of works, the contractor shall be obliged to issue instructions, satisfactory to the Company's Occupational Health and Safety Service.

In case the contractor performs works in the underground operations which depend on the underground mine's ventilation system, implementation of the prescribed technical norms and occupational health and safety measures shall be supervised both by the contractor's supervision staff and the Company's supervision staff.

In case the contractor performs works in mining facilities which do not depend on underground mine's ventilation system, or in other mining facilities outside underground mine, implementation of the prescribed technical norms and occupational health and safety measures shall be supervised by contractor's relevant services staff, while control of the works on behalf of the employer shall be performed by workers assigned by technical executive director and occupational health and safety staff shall mandatory at least once a month review implementation of occupational health and safety measures.

### **Failure to Implement Occupational Health and Safety Measures**

Company Director, technical supervision staff, as well as other persons responsible of execution of works, as defined by the Occupational Health and Safety Rulebook, including occupational health and safety officer, shall be obliged to remove temporarily a worker who fails to comply with any of the prescribe measures if they notice that such worker jeopardizes his personal and collective safety by his inappropriate work.

The responsible person, referred to in the previous section shall be obliged to produce official note at the earliest possible time and send written notification to the Occupational Health and Safety Service and relevant technical manager of the Company that such worker was removed from workplace.

## **OCCUPATIONAL HEALTH AND SAFETY MEASURES IN CASE OF DEVELOPMENT OF UNDERGROUND ROOMS**

### **Development of Underground Operations Rooms**



Underground operations rooms may be developed only in line with the approved design, annual work plan and technical instructions.

### **Technical Instruction for Underground Operations Rooms Development**

When developing underground rooms, prior to beginning of the works, underground operations manager shall be obliged to issue technical instructions, satisfactory for the Occupational Health and Safety Service and approved by technical executive director, which instructions shall contain clear and unambiguous provisions on how the works shall be executed, as well as general and specific occupational health and safety measures which must be implemented to protect workers lives and health.

In case of any change of working conditions, geological conditions, etc., technical instructions must be updated, namely aligned with the changes and the new circumstances.

Operating unit manager shall be obliged to inform all the workers engaged in such activities with the instructions and deliver them the instructions and obtain written confirmation of receipt of the instructions.

### **Content of the Technical Instructions on Development of Underground Operations Rooms**

Technical instructions on development of underground operations rooms shall contain:

1. How the works shall be executed,
2. How drilling and blasting shall be done,
3. Health and safety measures under regular and specific circumstances,
4. How the support shall be placed and the working secured,
5. Inspection of workings by supervision staff,
6. Workings ventilation,
7. Raw material supply and transport of excavated material,
8. Workings drainage,
9. Necessary protection measures,
10. Necessary attachments (plans, outlines and drawings).

### **Technical Instructions Implementation Control**

Underground operations manager, engineering staff, mining service manager and shift supervisor shall be obliged to perform control whether the works are being executed in line with the provided technical instructions and, as needed, provide guidance on proper implementation of the measures. Exceptionally, in case of emergency, in order to prevent accidents and material damage, responsible persons may, at their own discretion, take measures on which they will be obliged to inform the responsible shift manager.

## **OCCUPATIONAL HEALTH AND SAFETY MEASURES FOR EXCAVATION WORKS**

### **Excavation Works**

Excavation works shall be performed only based on the approved design and technical instructions for execution of excavation mining works.

### **Excavation Technical Instructions**

In case of excavation, operating unit manager shall be obliged to issue technical instructions satisfactory for the Occupational Health and Safety Service, as approved by the Company's technical executive director.

### **Content of Excavation Technical Instructions**

Excavation technical instructions must contain:

1. How the works shall be executed,
2. How the drilling and blasting shall be done,
3. How the support shall be placed (support type, support distribution, necessary tools, alignment of support placing with the other operations),
4. How the support shall be removed,
5. Safety measures in case of coal mining in unsupported rooms (size and height of available space, safety pillars and regulations on who among workers is allowed to enter into the unsupported part of the excavated space),
6. Manner of closing the excavated space,
7. Securing retrieval corridors,
8. Safety measures in case of regular and emergency circumstances,
9. Review and control of workings by technical supervision staff and task team leaders,
10. Proper use of transport devices,
11. Supplemental safety measures in case of blasting in methane underground operations and underground operations threatened by hazardous coal dust,
12. Necessary attachments (plans, outlines and drawings).

### **Special Instructions**

In case of specific circumstances in any part of the underground mine where mining takes place, or in case of emergency, operating unit manager shall be obliged to inform immediately technical executive director, who is at the same time head of rescue committee and who shall issue special instructions on how to perform works in such parts of the underground mine. The said instructions shall be issued in written form (mining supervision ledger).

## **VENTILATION OF UNDEGROUND OPERATIONS ROOMS**

### **Ventilation of Underground Operations Rooms**

Underground operations rooms ventilation system must be addressed in the design documentation.

All workings and all mining rooms in the underground mine must be ventilated by air flow or specifically (separately) by mechanical devices (ventilators) throughout all phases of the technological process in order to prevent accumulation of explosive, toxic, suffocating or other hazardous gases, as well as to maintain normal climate conditions.

Abandoned underground operations rooms and any room longer than 10 m, which are not ventilated, shall be isolated from the underground operations ventilation system by impermeable partitions or insulation walls.

Underground mine air parameters which define climate conditions for work include the following:

- Air temperature (°C),
- Air humidity (%),
- Air flow speed (m/s),
- Volume of air (m<sup>3</sup>/s).

Aggregate impact of the above parameters on the climate conditions for work is expressed in effective temperature ( $T_{ef}$ ).

Control of microclimate and other conditions; air temperature and humidity, air flow speed, presence of toxic and hazardous gases shall be performed in all active workings and underground operations rooms once a month.

### **Air Temperature**

Underground mine ventilation shall be such to ensure that air temperature does not exceed 23<sup>o</sup>C and 28<sup>o</sup> C at Assmann aspiration psychrometer and dry thermometer, respectively.

If air temperature at dry thermometer is above 25<sup>o</sup> C, it shall be measured every day. The results shall be entered in the ventilation log.

### **Working Conditions at the Workings**

On those workings where air temperature taken by wet thermometer ranges between 23<sup>o</sup> C and 26<sup>o</sup> C, and at dry thermometer between 28<sup>o</sup> C and 31<sup>o</sup> C, workers are allowed to work only up to 6 hours a day. In this case air flow speed must not be lower than 0.5 m/s. Workers who worked in hot workings (as the above referred ones) shall not be allowed to work in cooler places during the same day. Workers who work on hot workings must rotate every month. Upon expiration of one month, they can again work in hot workings.

### **Underground Mine Master Ventilation**

Underground mine master ventilation is performed:

1. as a rule by master and backup ventilator with diffuser and air flow direction alteration (reversal) device, and
2. by ventilation connections to the underground operations (ventilation shafts) as well as devices for power connection and supply.

### **Ventilation Master Facility**

Ventilation master facility must be inspected during each shift by ventilation supervisor and an employee in charge of ventilation facility operation.

Air flow alteration (reversal) device shall be checked by test reversal of air flow, minimum once a year, which shall be recorded in control log.

Master and backup ventilator shall be inspected minimum once a week by ventilation manager, mechanical and electrical service, and once a month by head of ventilation service, underground operations manager and occupational health and safety officer.

Integral parts of the master and backup ventilation facility must undergo detailed inspection by a committee once in 6 (six) months.

The said committee shall be established by technical executive director upon request and proposal by operating unit manager. Besides technical staff from the operating unit and the Company, the committee shall also include occupational health and safety staff.

### **Separate Ventilation of Underground Operations Rooms**

When underground operations rooms are ventilated by special ventilation (separate ventilation), underground operations manager shall be obliged to issue technical instructions.

The mentioned technical instruction must include:

1. Manner of ventilation,
2. Installation and location of the ventilator,
3. How the ventilator shall be switched on and off,
4. Installation, distribution and diameter of ventilation tubes (distance from the workings, location of the ventilation pipes in the rooms),
5. Maximum distance from which separate ventilation can be done,
6. Necessary safety measures,
7. Necessary attachments (plans, outlines and drawings).

This instruction should particularly describe procedure of reactivation of separate ventilation after interruption, with focus on control of gases and prevention of sudden penetration of gases into other rooms, and order of degasification in case of sequenced ventilation of workings.

### **Length of Separately Ventilated Underground Operations Rooms**

Lengths of separately ventilated underground operations rooms depends on calculations of air volume necessary for separate ventilation of workings, namely until underground mine air meets the prescribed quality parameters.

In case of ventilation disorders or interruption of work in separately ventilated workings, workers must withdraw from the workings into the rooms with fresh air flow and access to such workings must be prevented by placing forbidden access sign and electric power supply must be disconnected for all electrical devices.

### **Procedure in Case of Ventilation System Disorders**

In case of ventilation system disorder in a part of the underground mine or its workings, workers must immediately withdraw. In case of ventilation disorder in the whole underground mine, namely main inlets and outlets of air flow, the workers must immediately withdraw from the underground mine, in line with the instructions issued by operating unit manager, which instructions are satisfactory for the technical executive director and Occupational Health and Safety Service.

### **Underground Operations Ventilation Supervision**

Supervision over ventilation of underground operations exposed to methane and coal dust must be continuous.

Each shift must have ventilation supervisor. Ventilation supervisor must not be engaged in any production tasks. In case of absence of ventilation supervisor, he shall be replaced

by another person qualified to perform that task. All ventilations supervisors must have tools and instruments necessary to control gas and ventilation parameters.

### **Ventilations Supervisor's Responsibilities**

Ventilation supervisor shall be obliged to inspect once during a shift (8 hours) all underground operations rooms which are ventilated, rooms regularly used by the workers, rooms used for coal and material transport, as well as rooms which are not regularly used by workers, but serve the purpose of ventilation. When inspecting these rooms, ventilation supervisor must mandatory be accompanied by another person. Presence of workers of any profession (mining, mechanical or electrical) shall be forbidden in an underground operation with potential occurrence of carbon monoxide (CO) and other toxic gases, unless they are accompanied by a technical person responsible of gas control, and ventilation supervisor must also be accompanied by another person.

Shift ventilation supervisor shall be obliged to prepare ventilation status report, specifying measures taken, and the next shift supervisor shall confirm acknowledgement thereof by his signature.

Underground mine ventilation corridors shall be inspected by ventilation manager once a week and by ventilation supervisors once a day. Such inspections must be recorded in a separate ventilation log.

Status of ventilated rooms and ventilation devices, as well as of insulation partitions must be controlled minimum once a day and status of master and auxiliary ventilator during each shift and it shall be performed by ventilation service supervision staff.

### **Allowed Methane Concentration in Underground Operations Rooms**

Ventilation supervisor must enter into the ventilation log any presence of methane in the underground mine, including mitigation measures taken to ventilate the underground mine. If methane concentration in the air flow of the free space of the underground operations room exceeds the limits (incoming air flow of individual ventilation compartment up to 0.5%, workings up to 1.5%, outgoing air flow of individual ventilation compartment up to 1.5%, main exit of air flow up to 1.0%, return air of separately ventilated compartments up to 1.5%), work of people and operations of machinery shall not be allowed, with exception of ventilators for separate ventilation of workings.

### **Separate Instruction for Ventilation Supervisor**

Underground operations manager shall be obliged to issue separate order or instruction with the prescribed obligation and responsibilities, namely tasks and scope of work of ventilation supervision staff, as well as manner of performing inspection and control. Underground operations manager shall be obliged to define in the rooms a location with free flow ventilation where air samples shall be taken to measure methane concentration and provide data for overall methane balance.

## **UNDERGROUND OPERATIONS AIR MONITORING AND TESTING**

### **Underground Operations Air Parameters Control and Monitoring**

Control of ventilation, gas status and other safety parameters related to underground operations ventilation shall be defined by the design.

The control referred to in the Section 1 of this Article includes continuous or occasional monitoring of volume and distribution of air in the ventilation network, gas status, air quality, climate conditions for work, dust level, fire indicators, underground operations ventilation system functioning, status of rooms and facilities in the ventilation network, functioning of separate ventilation devices and functioning of automatic control devices.

The parameters referred to in the Section 2 of this Article shall be controlled at certain monitoring points, ventilation stations and operational control monitoring points.

Timelines for control and monitoring of underground mine gas and ventilation parameters at the defined monitoring points shall be determined by separate instruction issued by underground operations manager.

Overall air quality of the underground operations shall be controlled in laboratory minimum twice a month and results entered in a separate log.

## **METHANE CONTROL**

### **Methane Control and Monitoring in the Underground Mine Air**

Methane control in the underground mine and workings shall be performed before beginning of work in each shift and at the end of each shift, immediately before or after each interruption of work and before each change of air flow direction. Methane control shall be performed by technical supervision staff immediately before drilling, explosive preparation, explosive firing and after each blasting by staff performing these tasks (digger, blaster).

Methane control must be performed by ventilation supervisor and shift supervisor during workings inspection, but minimum once during a shift.

### **Devices and Instruments for Methane Monitoring in Underground Mine Air**

Methane control in underground mine shall be performed using instruments for stationary monitoring of methane concentration and using manual portable devices which produce audio and light signals when concentration limits are exceeded. In addition to that, the underground mines exposed to methane shall have installed devices which perform automatic methane control and power disconnection in case limits are exceeded, with ability to send notification remotely to the methane monitoring center. In addition to regular daily tests of composition of gases in the underground mine air, laboratory chemical analysis of underground mine air must be undertaken twice a month.

Each underground mine must be equipped with necessary number of methane indicators. During their regular work in the underground mine, below listed persons must be equipped with methane indicators:

1. Operating unit manager,
2. Operating unit mining engineers,
3. Occupational health and safety officer,
4. Mining works manager,
5. Mining works shift supervisor,
6. Excavation works supervisor,
7. Ventilation and maintenance service manager,

8. Shift ventilation supervisor,
9. Diggers in individual workings,
10. Blasters,
11. Rescue team.

### **Methane Concentration Monitoring Instruments Operational Manual**

Ventilation service manager shall be obliged to develop written instructions on how to handle special methane indicators (maintenance, inspection, distribution and storage), for each type of indicator. Ventilation service manager, upon approval by underground mine manager, shall determine which type of methane indicators shall be used in which workings. Operating units shall be obliged to send methane monitoring instruments to be inspected once a month, as well as immediately upon any malfunction observed.

### **Procedure in Case of Underground Mine Ventilation System Disorder**

In case of disorder in underground mine ventilation system or a part of it, workers must be evacuated from the threatened rooms. In case underground mine ventilation system disorder cannot be addressed, such as in rooms without established free flow ventilation, as well as in the parts of underground mine with presence of oxidation processes which result with gas products, all threatened rooms must be immediately evacuated.

### **Procedure in Case Production Process Interruption Lasts Longer than 24 Hours**

During work process interruption that lasts longer than eight hours, operating unit manager shall be obliged in each shift to assign a supervision group (inspection) responsible to inspect all the workings, main ventilation and transport corridors, control safety at workings in terms of supports, gas status, ventilation and drainage of the underground mine.

The inspection group must include ventilation, mining, mechanical and electrical supervisors, and for the drainage purpose and in case of pumping station and separate ventilation breakdown, inspection team shall include also an electrician, locksmith and pump repairer.

Upon inspection completion, the supervision group members shall be obliged to enter written report on their inspection and observed condition, in the ventilation log and briefing logs.

In case the workers refuse to go down into the underground mine, because of strike or protests or similar reasons, the manager shall be obliged to establish supervisory group which shall be obliged to go down into the underground mine. During that time workers transport mechanism operator, signalman at the entrance and exit of transport shaft, operating unit attendant- operator in the methane monitoring center and other persons whose work is directly related to underground mine safety must not leave their work posts.

In case the interruption last longer than 24 hours, operation unit manager shall be obliged to assign supervision group (prospection) responsible to visit all the places in the underground mine immediately before the work will be resumed.

The supervision group shall include one member of each of the ventilation, mining, mechanical and electrical staff selected among technical supervision staff (chief supervisor or service manager) or among engineering staff.

All members of the prospection group must perform the supervision of the underground mine or a part of it together. Separation from the group or individual visits are strictly forbidden.

If due to the size of the underground operations it would not be possible for a single prospection group to visit the whole underground operations before beginning of the shift, more prospection groups shall be assigned, each to visit a certain part of the underground operations.

Upon completion of the prospection supervision, supervision group leader shall be obliged to enter written report with the observed findings, in the briefing log.

Normal work of the shift can be ordered only based on the prospection group's report which finds that underground operations conditions are normal in terms of ventilation, hazardous gases and free of any hazards for workers.

### **Change of Underground Mine Ventilation System**

Changes of the ventilation system, namely changes of functioning of master or auxiliary ventilators, as well as the separate ventilator may be ordered only by the underground mine manager, with prior approval by technical executive director and Occupational Health and Safety Service.

### **Underground Operations Ventilation Records and Control**

Operating unit must maintain underground operations ventilation log with entered air monitoring and tests results, as well as data on temperature and gas status in the underground mine.

Ventilation log shall be reviewed by operating unit manager and ventilation and maintenance service manager on daily basis and verified by their signatures, and by technical executive director and chief ventilation engineer once a month.

## **COAL DUST MITIGATION MEASURES**

### **Hazardous Coal Dust Accumulation and Explosion Prevention**

Protection against methane and coal dust is implemented by preventing accumulation of hazardous concentrations which may cause combustion or explosion. To that end the following measures must be implemented:

- All existing underground operations rooms must be ventilated with sufficient volume of air to keep methane concentration within the allowed limits,
- Downstream air flow speed must be above 1.0 m/s,
- At the opening and preparation workings pre-drill must be performed,
- All electrical devices in the rooms with methane hazard level II must be in „Ex“ mode,
- Accumulated coal dust must be properly removed,
- Inspection of dust concentration in underground operations rooms must be performed once a week,
- Dissemination of coal dust must be mitigated by spraying with water and cleaning.

### **Coal Dust Hazard Mitigation by Underground Operations Rooms Humidifying**



Underground mines exposed to hazardous coal dust must have water supply to be able to keep the area where dust is developed and accumulated humid. Underground operations rooms where hazardous levels of coal dust are developed or accumulated must be humidified by spraying their floor, ceiling, side walls and supports, to prevent dust floating in the air and to make the dust non-hazardous. Underground operations rooms must be cleaned from coal dust by removing the dust from the underground mine.

### **Water Barriers to Prevent Transmission of Hazardous Coal Dust Explosion**

To prevent explosion transmission from one underground mine compartment to another, at the compartment entrance and exit, and if necessary also at incoming and outgoing ventilation shafts, it is necessary to install appropriate devices (sprayers) to moisturize the rooms continuously, namely to ensure water barriers which in case of explosion blast create water curtains.

Using water sprayers, water curtains should be created at the outgoing air exit from the stope.

### **Records on Hazardous Coal Dust Mitigation Measures**

Information on the measures implemented to prevent hazardous coal dust explosion should be entered into the underground operations ventilation log.

### **Blasting in the Underground Operations with Methane or Hazardous Coal Dust Presence**

In the workings with presence of methane or development of hazardous coal dust in their immediate vicinity, it is allowed to use only methane-safe explosive and instantaneous or millisecond electrical methane detonators.

Only electronic activation of explosive is allowed.

Use of aluminum detonators or sharp aluminum electrical ignitors is forbidden.

It is forbidden to bring to the underground operations and use any other explosive material and blasting toolkits but the ones purchased by the Company from authorized manufacturer.

## **UNDERGROUND MINE TRANSPORT**

### **Underground Mine Transport Means**

Different types of transport means may be used in the underground mine, provided that utilization approval (utilization permit) issued by responsible authority is obtained. They can be used only for the particular type of transport for which they are intended by the design documentation approved by responsible authority.

### **Types of Underground Mine Transport Tunnels and Transport Means**

Transport of coal and material in the underground mine can be done through horizontal tunnels, declines and vertical tunnels. Transport in horizontal tunnels can be manual, mechanical, pneumatic and hydraulic. Transport in declines can be mechanical, pneumatic, hydraulic and gravity.

Transport of material in underground mine by mechanical means and devices can be done by:

1. Locomotive,

2. Infinite cable,
3. Winch,
4. Low and high rail,
5. Belt conveyor,
6. Rake conveyor,
7. Transport facility.

### **Underground Mine Transport Means Operators**

Transport means can be operated only by workers who are trained to operate particular type of transport means. If a new transport means is introduced for the first time, the operator must be familiarized through seminar or training course.

### **Technical Instruction for Underground Mine Transport Means Operation and Maintenance**

Written technical instructions on operations and maintenance must be issued for all transport means in the underground mine. The instructions referred to in the previous Section shall be issued by underground operations manager, as approved by technical executive manager and agreed upon with Occupational Health and Safety Service.

### **Content of the Technical Instructions for Underground Mine Transport Means Operation and Maintenance**

The technical instruction referred to in the previous Article shall include:

1. Responsibilities of a worker who control transport means condition,
2. Responsibilities of a worker who maintains the transport means,
3. Responsibilities of the transport means operator,
4. Inspection schedule,
5. Responsibilities of workers who use the transport means,
6. Regular transport timetable (for transport of people),
7. Signalization used for transport,
8. Special safety measures related to transport of people.

### **Records Keeping on Underground Mine Transport Means**

For each transport means the following records must be kept:

1. Regular inspection log,
2. Workers transport log (for transport means used to transport workers),
3. Handover log,
4. Testing and maintenance log,
5. Excerpt from technical regulations pertaining to given transport means,
6. Inspection log of rooms where transport means is located.

### **Technical Documentation on Underground Mine Transport Means**

Technical characteristics of coal, material and people transporters must be in line with the intended transport and characteristics of the transported material. The transporters must fully comply with the requirements of the Rulebook on Technical Measures for Transport by Belt Conveyor in Mining Industry. Transporters must be installed in accordance with the approved design.

For each transporter up to date documentation shall be available, as follows:

1. Certificate issued by relevant technical institution,
2. Technical evaluation for the purpose of commissioning issued by relevant technical organization,
3. Utilization permit for the transporter issued by responsible mining authority.

In case of stationary transporters, records shall be kept on the performed periodic inspections.

### **Periodic Inspection of Transport Corridors and Transport Means in the Underground Mine**

All transport corridors, facilities and devices, signaling and safety devices must be inspected minimum once a month, followed by reports describing condition of the inspected equipment and measures taken during the inspection.

For each transport means and facility subject to periodic (daily, weekly, monthly, semi-annually and annually) inspections, maintenance and tests, such inspections, maintenance and test must be established and records thereon maintained.

## **TRANSPORT OF PEOPLE IN THE UNDERGROUND MINE**

### **Transport of People in the Underground Mine**

Transport of people in the underground mine can be performed by:

1. Locomotive traction on low and high rail,
2. Belt conveyor,
3. Underground mine cable cars, and
4. Infinite cable.

### **Underground Mine Tunnels for Transport of People**

Horizontal and vertical underground mine tunnels or declines through which people are transported must be supported by timber, steel or concrete support to prevent crumbling of the ceiling or walls.

### **Entrance to and Exit from Underground Mine People Transport Means**

Places where people enter and exit the transport means (stops), as well as the terminals, must be specially organized and permanently lighted.

### **Functionality of People Transport Means**

People shall be transported only in properly functioning transport means.

### **People Transport Means Timetable**

During regular transport of people, underground mine room must be completely free and neither other transport, nor any other activity, which may threaten people, shall be performed at the same time.

People and material transport timetable must be displayed at each entry and exit stop, as well as instructions for transport of people, transport means stop sign and proper signaling.

## **Technical Instructions for People Transport Means Operation and Maintenance**

All safety measures related to operations, maintenance and use of underground mine people transport means shall be defined in the technical instructions issued by underground operations manager.

The instructions referred to in the previous Section shall be issued by underground operations manager and approved by executive director upon prior consent by Occupational Health and Safety Service.

## **FIRE CONTROL**

### **Underground Mine Fire**

Underground mine fire is any fire which occurs in:

- 1) Underground mine rooms,
- 2) On the surface, if the gases produced as a result of burning enter underground rooms transmitted by incoming air flow into the underground mine,
- 3) exogenous fires caused by external source of heat, and
- 4) endogenous fires caused by self-combustion of mineral substances.

### **Control of Places of Potential Underground Mine Fire Hazard**

Because of presence of methane and coal dust, it is strictly forbidden to bring into the underground mine any combustible material and smoking products or any devices which may cause methane combustion or underground mine fire.

It is necessary to perform continuous control of the underground mine, namely places of potential hazard of underground mine fire.

All opening and exploitation designs must include necessary fire control measures.

Fuel and other combustible material storage must be minimum 60 m away of the outgoing (exit) shaft.

### **Underground Mine Fire Control Plan**

General Emergency Preparedness Plan covering whole range of various hazards and accidents, as well as underground fire control must include the following:

1. Procedure in case of methane and coal dust explosion and fire in the underground mine rooms,
2. Special preventive measures,
3. Post-fire recovery activities.

### **Ventilation Regime Change in Case of Underground Mine Fire**

Change of ventilation regime may be ordered only by underground operations manager or a person specified in the Emergency Plan. Ventilation regime change shall be approved by technical executive director upon consent by Occupational Health and Safety Service.

### **Underground Mine Fire that Is Not Envisaged in the Emergency Plan**

In case of occurrence of underground mine fire in a place which is not envisaged by the Emergency Preparedness or Rescue Plan or Fire Control Plan, and for which mitigation measures are not envisaged, underground operations manager shall take fire-fighting

measures and develop Operational Recovery Plan after the fire. The Operational Plan shall particularly define terms and conditions under which production work can be resumed in the underground mine workings.

### **Written Approval for Welding in the Underground Mine**

Welding, brazing, cutting, sending, and warm vulcanization may be performed in the underground mine only in methane hazard level I rooms, upon prior written consent by Occupational Health and Safety Service and approval by technical executive director.

In such cases precise time when the work will be performed and qualifications of persons to perform it shall be defined in written form, as well as person responsible to perform control during the work and upon its completion, which person must be mining professional with completed technical exam for mining works supervision.

Separate approval must be issued for each type of such works and the approvals must be entered in the mining supervision log.

### **Control of Fire Extinguishers**

Fire extinguishers and their locations shall be controlled by each worker within the scope of his work, operating unit technical supervision staff and Occupational Health and Safety Service staff.

### **Hydrant Networks**

One of the alternatives for underground mine fire extinguishers is hydrant networks laid from underground mine entrance all the way to all underground mine rooms. Hydrant networks can be also used to control coal dusts in the underground mine.

### **Fire Control Rulebook**

Based on the conditions and needs and in line with fire control regulations, the Company shall be obliged to develop Company-level Fire Control Rulebook as well as Fire Control Plan for each organizational unit of the Company.

## **PROTECTION AGAINST WATER**

### **Protection against Water**

In case water occurs in workings or other rooms, it must not be stopped or closed, it must rather be directed by a separate canal or pipeline to the water discharge canal.

### **Underground Mine Rooms Drainage Technical Documentation**

Water drainage from underground mine rooms shall be done based on the approved design and technical instructions. The instruction referred to in the previous Section shall be issued by underground mine manager, approved by technical executive director with consent by Occupational Health and Safety Service.

### **Underground Mine Pumping Facilities Operations and Maintenance Technical Instructions**

Underground Mine Pumping Facilities Operations and Maintenance Technical Instruction must cover:

- 1) Pumping facilities (pumps) switching on and off,
- 2) Responsibilities of pump operator related to Emergency Preparedness and Rescue Plan,
- 3) Additional occupational health and safety measures.

### **Potential Hazard of Water Penetration into the Underground Mine**

In case of underground mines threatened by penetration of water from water-bearing layers, tectonic movements, old excavations, burst of liquid sand, etc., underground operations manager shall be obliged to envisage such hazards in the Emergency Preparedness and Rescue Plan. If the hazards referred to in the previous Section can be transmitted to other underground operations, managers of those other underground operations shall be obliged to envisage all such hazards and mitigation measures in their Emergency Preparedness and Rescue Plans.

### **Information on Water Penetration Hazard**

Underground operations manager or a person, among supervision staff, delegated by him, shall be obliged to inform workers working in the underground mine part directly exposed to such hazard, with particular focus on the typical signs which precede water penetration incident (increased flow of water, increased pressure, pillar cracks, etc.).

### **Water Accumulation on the Surface**

In case of accumulation of water on the surface above the mining works as a result of underground coal mining, the water must be drained and the pit filled.

### **Water Collection Tanks**

Water collection tanks must be regularly cleaned ensuring that no more than 40% of their capacity is occupied.

Water collection tanks' capacity must be sufficient to accept water inflow of eight hours.

### **Pumping Stations and Inspections**

The pumps must be of a sufficient capacity to sustain double amount of normal water inflow.

In each shift there must be pump operator for each pump who shall be responsible to maintain precise records on pump operation.

All pumping stations and pumps must be daily inspected by responsible locksmith, and during each shift by mechanical service supervisor.

Operating unit manager shall be obliged to organize record keeping on water inflow into the underground mine on daily basis, based on which monthly and annual reports shall be produced.

### **Mining Works Threatened by Water Penetration**

If during mining works there is an indication of water presence in the coal seam, roof or floor seam, which may point to larger water inflow into the underground mine room, works must be immediately suspended and underground operations manager informed thereon to define further actions and investigate origin of water.

### **Drainage Plan**

Each underground mine in which water drainage is done via water collection tanks and pumping facilities must have Drainage Plan with indicated water collection tanks and pumping facilities, which shall be updated on monthly basis.

## **WORK WITH EXPLOSIVE ORDNANCES**

### **Persons Who Work with Explosive Ordnances**

Blasting works shall be performed by blaster appointed by operating unit manager with consent by Occupational Health and Safety Service. Blaster's tasks can be performed by a persons with completed:

- University education in mining area and practical experience in explosive handling
- Junior college (two years of university education) and secondary education in mining area, one year of working experience and completed technical exam for independent handling of explosive in mining industry, and
- Vocational education in the area of mining (digger or driller), three years of working experience as skilled worker and completed technical exam for independent handling of explosive in mining industry.

Persons who fail to take seriously and responsibly their job or persons prone to consumption of alcohol cannot work as blasters or perform blasting work.

### **Types of Explosive Ordnances**

For underground mine blasting only methane-safe explosive and instantaneous or millisecond electric methane detonators are allowed to be used.

Only explosives procured by the Company through authorized supplier are allowed to be used in the underground mine.

### **Technical Instruction for Explosive Use**

Underground operations manager shall be obliged to issue technical instruction for receipt, transport, placement, storage, dispense, use and destruction of explosives. The instruction referred to in the previous Section of this Article shall be approved by technical executive director with consent by Occupational Health and Safety Service.

### **Content of the Technical Instruction for Explosive Use**

Blasting-related sections of the Instruction referred to in the previous Article must cover the following:

- 1) Type of explosives to be used in the given underground mine or its parts,
- 2) Type of blasting,
- 3) Number of blasting drills,
- 4) Distribution and depth of drills,
- 5) Distribution of drills for preparation, excavation, ascending tunnel, corridor, descending tunnel,
- 6) Quantity of explosive in each drill,
- 7) Type of electric devices for detonation,
- 8) Terms and conditions for blasting under specific circumstances,
- 9) Safety measures during blasting,
- 10) Additional safety measures,

11) Outlines and drawings.

### **Record Keeping on Use of Explosive**

Operating unit must maintain precise records on work with explosive ordnances, particularly through:

- 1) Mining log – daily mining sheet,
- 2) Log of unexploded – failed explosives,
- 3) Report on the destroyed explosive ordnances,
- 4) Log on work with explosive ordnances,
- 5) Daily use of explosive ordnances by workings and shifts.

Deficit or surplus of explosive ordnances in warehouse, backup storage or handy stocks, as well as deficit in original manufacturer's packages must be reported in written form and underground operations manager, technical executive director, Company director and Occupational Health and Safety Service notified thereon immediately, and they are obliged to report it to the police authorities immediately.

### **Records Keeping on Destruction of Defective Explosive Ordnance**

Defective, namely unusable explosive ordnances which are not returned to the supplier must be destroyed in accordance with the instructions provided by the manufacturer, in presence of a committee.

### **Storage of Combustible, Explosive and Toxic Material**

Combustible, explosive and toxic material may be stored only in special containers in safe locked places and under surveillance. Such material can be dispensed only to persons who are familiar with the hazards related to that material and are included in the list of persons authorized to receive them. Containers and packages must be labeled, indicating their content and type of material. In case of corrosive acids and bases decanting, special tools must be used, and under no circumstance that should be done by sucking air from the pipe by mouth.

**Other works performed in the mine.** If the organizational unit performs works such as: repair of smaller shafts, cleaning of bunkers, water sedimentation tanks, pumps, as well as storage of pit props, coal and construction material, including minor civil works (canals, cuts, dams, etc.), such works may be performed only based on the instructions issued by operating unit's technical manager upon previous consent by Occupational Health and Safety Service and technical executive director.

**Instructions for Various Works Performed in the Mine.** The instructions referred to in the previous Article must include:

1. How the works shall be executed,
2. Allocation and duties of persons executing such work,
3. Tools, material and necessary resources,
4. Maner of supervision by technical supervision staff,
5. General and specific safety measures which must be implemented during execution of works,
6. Outlines, drawings, etc.



## **Briefings**

For the purpose of sharing information on conditions in the underground mine, issues and operational problems, before beginning and after completion of each shift, briefings shall be held, to be attended by all responsible technical supervision staff of the given shift, while the briefings at the beginning of the first and second shift and end of the first and third shift shall be attended also by other responsible persons in the operating unit, as needed.

## **Persons Attending the Briefings**

The briefing referred to in the previous Article shall be attended by:

- operating unit manager,
- mining works service manager,
- ventilation and maintenance service manager,
- electrical service manager,
- mechanical service manager,
- engineers responsible of production, ventilation, electrical and mechanical tasks,
- mining works, ventilation and maintenance, mechanical and electrical works foremen,
- chief supervisors of mining, ventilation and maintenance, electrical and mechanical services,
- shift supervisors of mining, ventilation and maintenance, electrical and mechanical services, and other staff invited by operating unit manager.

## **Rock Burst Mitigation Measures**

Accurate evidence must be maintained on occurrence of rock bursts, time, place and consequences of each rock burst and accompanying impacts in accordance with separate template.

In all opening and preparation workings, test drills must be performed to identify and locate high pressure zones, namely seam vulnerability to rock burst and appropriate mitigation measures implemented. If test drill identifies and locates maximum pressure zone, namely coal seam vulnerability to rock burst, it would be necessary to perform depressurizing blasting.

Records on test drills and depressurizing blasting shall be maintained in the separate logs.

## **RESCUE SERVICE, FIRE-FIGHTING SERVICE AND FIRST AID SERVICE**

### **Organization of Rescue Service, Fire-Fighting Service and First Aid Service**

The Company shall be obliged to organize rescue service and provide it with necessary resources, as well as to organize fire-fighting service and first aid service or contract relevant local service providers.

Manner of organization and operations of the rescue service, fire-fighting service and first aid service shall be regulated by the Company's Rulebook on Organization and Operations of Rescue Service, Fire-Fighting Service and First Aid Service.

## **PERSONAL PROTECTION EQUIPMENT AND RESOURCES**

### **Provision of Personal Protection Equipment**

The Company shall be obliged to provide all the employees, in line with specific working conditions, with personal protection equipment and resources which must be of such features to prevent hazardous and harmful impacts to which employees or parts of their body are exposed.

In addition to personal protection equipment, security staff and rail transport staff shall be provided with official uniforms, as prescribed by Law and other regulations.

Personal protection resources include the resources the workers should and must use during working time, while personal protection equipment includes the equipment to be used under specific circumstance and occasions.

### **Procurement of Personal Protection Resources and Equipment**

When procuring personal protection resources, personal protection equipment and uniforms from manufacturer, attention should be paid that such items are standardized, namely that the manufacturers must have certificates issued by authorized technical institution, unless such equipment or resources are already subject to adequate standards. Procurement of personal protection resources and equipment shall be approved by Occupational Health and Safety Service.

### **Resources Imported from Foreign Countries**

In case of imported protection resources and equipment, assessment from responsible institution must be obtained whether the imported items comply with the highest standard requirements. Importer shall be required to provide certificate for the equipment and resources.

### **Use of Protection Resources**

Each employee who is provided with personal protection resources or equipment shall be obliged to use it, safeguard and maintain throughout all phase of work for which such resource or equipment is intended.

It shall be forbidden to use such assets when not working, for private purposes. Upon completion of work, personal protection resources and equipment must be stored in the place defined for that purpose or in the lockers.

### **Worn Out and Damaged Protection Equipment**

Each worker shall be obliged to inform his immediate superior in case his personal protection resources or equipment is damaged, worn out or defective. If personal protection resources or equipment is damaged before the envisaged shelf-life, due to specific working conditions, in such cases it shall be replaced by a new item and reported thereon in written form. Responsible persons within the Company shall be obliged to review and analyze quality and performance of personal protection equipment and

resources. The worker who destroys personal protection resources or equipment deliberately or due to negligence, shall be obliged to compensate the damage and shall be provided with a functional replacement equipment. In terms of indemnity the worker shall be charged non-written off value of the personal protection equipment in line with the define shelf-life, norms and applicable prices.

#### **Redeployment to Different Work Tasks and Protection Equipment**

When redeployed to other tasks, the worker shall bring with him the personal protection resources and equipment given to him. In case the new tasks require other personal protection equipment and resources which the worker does not have, that shall be provided to the worker, and the ones he does not need any more, shall be returned.

#### **Records on the Dispensed Protection Resources**

Operating unit shall be obliged to maintain records on the dispensed protection resources and equipment, obligations and timeline. Dispensing of personal protection resources and equipment shall be done either through record sheets or registration log.

#### **Shelf-Life of the Personal Protection Equipment**

The Company shall regulate type and quality, as well as shelf-life of protection items required for each type of work and assignment by a Rulebook on Personal Protection Resources and Equipment for Certain Types of Work.

Shelf-life of personal protection equipment shall be extended for the period when the worker was absent from work for any reason.

A person who leaves the Company shall be obliged to return personal protection resources and equipment.

#### **Protection Equipment for Persons Who Are Not Company Employees**

Persons undergoing practical training in the Company, technical excursions, etc. shall be entitled to the same personal protection resources and equipment necessary during their practical training as the other workers.

#### **Worker's Entitlement in Case He Is Not Provided with Personal Protection Equipment**

The workers shall be entitled to refuse to perform works where he would be exposed to injury hazard unless he is provided with the prescribed personal protection resources and equipment. Control of use and performance of personal protection resources and equipment shall be performed by worker's immediate superior and Occupational Health and Safety Service.

#### **Personal Protection Resources, Protection Equipment and Occupational Health Resources**

(1) Personal protection resources and personal protection equipment include objects, devices, clothes, footwear, and equipment worn or used during work to protect against hazards and harmful effects at workplace.

- (2) Protection resources which do not need to be used permanently, but only under specific circumstances and occasions are called personal protection equipment (face shields, glasses, respirators, soundproof headphones, etc.)

### **Obligation to Accept**

All Company workers shall receive personal protection resources, protection equipment, and occupational health protection resources, to use them free of charge over certain period of time, depending on specific characteristics of workplace and working conditions, and they shall be obliged to use them for the intended purposes.

### **Using and Safeguarding**

- (1) Each worker shall be obliged, after coming to workplace and before beginning to work to accept the resources and equipment and use them for the intended purpose, depending on working conditions and type of work to be performed.
- (2) Each worker shall be obliged to safeguard and maintain personal protection resources and equipment as envisaged by the manufacturer's instruction.

### **Obligation to Use**

- (1) In case a worker fails to use at his workplace the personal protection resources and equipment envisaged by the Rulebook, depending on type of hazard and source of danger, his immediate superior, foreman and service manager, occupational health and safety officer or inspector or other authorized person (pursuant to the Company's Occupational Health and Safety Rulebook) must remind the worker about mandatory use of such resources and equipment.
- (2) If even upon the reminder, the worker fails to start using the resources and equipment, his immediate superior, foreman and service manager, occupational health and safety officer or inspector or other authorized person shall be obliged to remove the worker from his workplace.
- (3) A worker shall be entitled to refuse to work in a workplace where he is threatened by immediate hazard of injury or health hazard, unless the prescribed personal protection resources and equipment is made available.

## **PERSONAL PROTECTION RESOURCES AND PROTECTION EQUIPMENT**

### **List of Personal Protection Resources and Equipment**

Personal protection resources and protection equipment to be used by the Company workers include:

1. HEAD PROTECTION RESOURCES AND EQUIPMENT
  - Mining helmet
  - Protective cap

2. EYES AND FACE PROTECTION RESOURCES AND EQUIPMENT
  - Protective goggles
  - Eyes and face shield
3. HEARING PROTECTION RESOURCES AND EQUIPMENT
  - Ear protection (headphones)
  - Ear plugs
4. RESPIRATORY ORGANS PROTECTION RESOURCES AND EQUIPMENT
  - Respirators
  - Filtration mask BAS EN 405+A1:2010
  - Full-face filtration mask BAS EN 136:2002
5. HAND PROTECTION RESOURCES AND EQUIPMENT
  - Protective gloves
  - Washing soap
  - Hand cleaning paste for removal of grease, oil and other dirt
6. FOOT PROTECTION RESOURCES AND EQUIPMENT– PROTECTIVE FOOTWEAR
  - Wellies
  - Protective shoes
7. BODY PROTECTION RESOURCES– PROTECTIVE CLOTHES
  - Work coat
  - Overall
  - Protective rubber apron (pinafore)
  - Leather apron (pinafore) – welding
  - Leather belt
  - Fluorescent vest
  - Raincoat
  - Protective waistcoat (bodywarmer) – winter
  - Protective jacket – winter
  - Towel, T-shirt, underwear pants (long, short) and socks
8. OFFICIAL AND WORKING CLOTHES, WORKING UNIFORMES
  - Working uniform for security guard (winter and summer)
9. PROTECTION RESOURCES AND EQUIPMENT AGAINST FALL FROM HEIGHT
  - Protective belt with safety rope – type “B” adjustable
  - Climbing spurs for wooden pole
  - Climbing spurs for concrete pole
10. PROTECTION RESOURCES AGAINST ELECTRIC SHOCK (PROTECTIVE INSULATION EQUIPMENT)
  - Rubber gloves with electrical insulation
  - Wellies with electrical insulation
  - Overhead transmission lines (10-35 kV) connection and earthing kit
  - Internal facilities (up to 1kV) connection and earthing kit
  - Self-bearing cable connection and earthing kit
  - Connection and earthing kit for overhead grid with bare conductors
  - Voltage indicator

- Insulation pliers for high voltage fuses
- Protective insulation board
- Protective insulation pad

#### 11. FIRST AID RESOURCES AND EQUIPMENT

- First aid cabinet
- First aid bag - for field
- First aid cabinet refill
- First aid bag refill
- Additional first aid material

#### **Compliance with Standards**

Personal protection resources and equipment must comply with technical requirements prescribed by applicable standard defined in IST 103/2012 of November 6, 2012, which standardize personal protection resources and collective protection equipment used in BiH Elektroprivreda [Power Utility] Concern.

### **PERSONAL HYGIENE MAINTENANCE PREMISES**

#### **Bathrooms**

- (1) All the Company workers, particularly the ones exposed in their workplace to significant impact of dust and dirt, excessive sweating, etc. shall have access to bathrooms with warm water.
- (2) Other workers shall have available place to wash hands and face, and if possible, access to warm water.

### **LEGAL REGULATION OF OCCUPATIONAL HEALTH AND SAFETY, FIRE CONTROL AND WORKING ENVIRONMENT AND ENVIRONMENTAL PROTECTION**

#### **Legal Regulation of Occupational Health and Safety**

Legal regulation of occupational health and safety, fire control and working environment and environmental protection includes:

1. Development and enforcement of regulations on occupational health and safety, fire control and working environment and environmental protection,
2. Development of annual plans and programs on occupational health and safety, fire control and working environment and environmental protection,
3. Participation in development of education curricula in the area of occupational health and safety, fire control and environmental protection, as well as programs of professional training and development,
4. Drafting proposals in the area of occupational health and safety, fire control and environmental protection for the responsible bodies of the Company.

## **GUIDANCE AND IMPROVEMENT OF OCCUPATIONAL HEALTH AND SAFETY, FIRE CONTROL AND WORKING ENVIRONMENT AND ENVIRONMENTAL PROTECTION**

### **Guidance and Improvement in the Area of Occupational Health and Safety**

Guidance and improvement of occupational health and safety, fire control and working environment and environmental protection includes the following:

1. Notify responsible persons of the Company and Company's organizational units on the identified shortcomings they are responsible to address,
2. Make proposals to initiate procedure to investigate non-compliances in the said areas,
3. Review and monitor performance of the existing protection devices, resources and personal protection equipment, develop proposals to improve their performance,
4. Consider proposals and opinions of employees related to modifications of occupational health and safety, fire control and environmental protection to better adjust them to work activities and tasks,
5. Propose optimal forms of occupational health and safety, fire control and work environment and environmental protection for compliance with the new and existing regulations,
6. Follow latest regulations, as well as scientific and technology development in the said areas and inform thereon relevant technical services and responsible persons in the Company,
7. Provide technical opinion whether main and supplemental mining design and other project documentation based on which works are performed, is compliant with regulations and technical norms governing the said areas,
8. Plan and organize communication efforts to develop positive perception among employees about the said areas,
9. Cooperation with scientific institutions and organization aimed to improve occupational health and safety, fire control and working environment and environmental protection.

## **SUPERVISION OVER IMPLEMENTATION OF OCCUPATIONAL HEALTH AND SAFETY, FIRE CONTROL AND WORKING ENVIRONMENT AND ENVIRONMENTAL PROTECTION**

### **Control over Implementation of Occupational Health and Safety**

Supervision and control over implementation of occupational health and safety, fire control and working environment and environmental protection include:

1. Whether mining and other works are performed in line with regulations, technical instructions, approved project documentation and annual work plan,
2. Whether personal protection equipment is available and properly used by workers,
3. Gas status and whether other working environment parameters are regularly checked in accordance with applicable regulations and standards,
4. Whether transport, storage and handling of explosive ordnances and liquid fuel is done properly, as prescribed,

5. Whether workers meet all the requirements prescribed for carrying out their work and tasks,
6. Whether required approvals and certificates have been obtained for the facilities, plants, devices and installations and whether the prescribed inspections and tests have been performed regularly,
7. Whether rescue stations are equipped with the prescribed equipment, tools and spare parts,
8. Whether transport of people and material is done in line with regulations and instructions, and
9. Whether supervision over implementation of occupational health and safety norms and measures by contractors hired by the Company is performed,
10. Compliance with regulations governing the said area in case of procurement of new machines, plants and equipment, devices and tools, organization of working premises, and use of personal protection equipment,
11. Compliance with the Rulebook on Occupational Health and Safety, Fire Control and other regulations governing occupational health and safety, fire control and working environment and environmental protection,
12. Control whether warning signs, instructions, appropriate functioning tools and utensils are placed at appropriate locations,
13. Control of procurement, use and maintenance of personal protection equipment and compliance with the prescribed standards,
14. Control of compliance with the regulations on occupational health and safety, fire control and working environment and environmental protection in case of construction and investment maintenance of facilities, procurement of local and imported equipment.

## **SPECIAL WORK ACTIVITIES AND TASKS**

### **Special Work Activities and Tasks of Occupational Health and Safety Service**

Special work activities and tasks of Occupational Health and Safety Service include:

1. Provision of written verification of technical instructions for repair and maintenance works under specific circumstances and specific occupational health and safety measures, fire control measures, as well as work with hazardous material, and special works at height and tasks associated with particular hazards which require permanent presence of supervision staff,
2. Verification of the location of handy stock of explosive ordnances in form of niches or chests,
3. Verification of technical instructions for execution of works on excavation and preparation workings, instructions for explosive ordinance receipt, transport, storage, safeguard, dispensing, use and destruction, verification of instructions for master ventilator operation,
4. Verification of Emergency Preparedness and Rescue Plan in underground mines, as well as confirmation of Fire Control Plans, and
5. Verification of special (separate) ventilation of underground mine rooms in case their length exceed the prescribed one,



6. Forward to the Federation Inspectorate the report on actions carried out to address the shortcomings identified by the Federation Mining Inspector and other inspection authorities,
7. Participate in the training and knowledge evaluation of the Company staff in the area of occupational health and safety,
8. Develop reports on the said area and technical documentation required by law and other regulations on the said area,
9. Maintain records on severe injuries and death casualties and save reports on the said work accidents, collective accidents, as well as technical documentation, approvals and permits,
10. Develop analyses of injuries, identify source, cause, type and manner of workers' injuries, as well as other data on days, age, years of service, etc. of the injured workers,
11. Participate in appeal process against decisions made by inspection authorities, in case the imposed corrective actions are not justified and require significant financial investments, and there are not potential hazards which would threat workers and cause pollution of working environment and general environment,
12. Participate in identifying causes of injuries and accidents,
13. Participate with other responsible technical persons in license obtaining procedures for commissioning of mining facilities, plants, devices and installations,
14. Participate in carrying out periodic inspections and reviews of tools and devices, assessing physical, chemical and biological impacts and issuing appropriate mining documents prescribed by Mining Law and Occupational Health and Safety Law.

## **COOPERATION WITH OTHER SECTORS, SERVICES AND INDIVIDUALS OF THE ORGANIZATIONAL PARTS OF THE COMPANY**

### **Occupational Health and Safety Service Cooperation with Other Organizational Units and Individuals**

As a part of its work, Occupational Health and Safety Service cooperates with other services and individuals, as follows:

1. All workers, in particular the ones in managerial positions, shall be obliged to consult with the Occupational Health and Safety Service on all the issues relevant for development of safe working conditions and for the purpose of proposing measures to improve them,
2. With Operating Unit "Institute" to ensure that occupational health and safety, fire control and working environment and environmental protection aspects are included in line with applicable regulations on that area, in design development, construction works supervision,
3. With Fire-Fighting Unit to ensure coordination in implementation of fire control measures,

4. HR and general affairs services and other institutions engaged in training of mining professionals, in particular on:
  - development of specific curricula for occupational health and safety training, and
  - organizing special supplemental knowledge enhancement on occupational health and safety through seminars, lectures, videos, bulletins, articles, audio system, etc.
5. Occupational Health and Safety Service cooperates with health care facilities for physical examinations and other medical examinations of workers, control of workplace hygiene, analyses of work-related injuries and health damage and organization of exams on first aid and prevention of injuries,
6. With the Company director and other managers at Company and organizational parts to inform them on the identified shortcomings in the said area, as well as to propose measures aimed to address the identified shortcomings and to improve occupational health and safety, fire control and work environment and environmental protection,
7. With the other organizational parts of the Company to perform inspection of machines, equipment, devices and tools from the aspect of the said areas,
8. With commercial service to obtain the prescribed documentation pertaining to the said areas, i.e., that the procured goods are accompanied with the prescribed documentation and declarations.

## **OCCUPATIONAL HEALTH AND SAFETY SERVICE AUTHORITIES**

### **Responsibilities and Authorities of the Occupational Health and Safety Services**

Occupational health and safety service, with its representatives in the Company's organizational parts shall be obliged:

1. To inspect execution of any works and tasks in workings, machinery, plants, and devices in the Company and its organizational parts at any time of day or night,
2. To review technical and other documents to define elements relevant for assessment of sources of workers' injuries and accidents with equipment and tools,
3. Through commercial service to procure personal protection resources and equipment which meet quality and performance requirements for certain work and tasks,
4. To take written statements from person who can provide accurate information necessary to establish circumstances under which injury of worker or accident with equipment and tools occurred,
5. To interrupt work of machine, plant, device, at workings in case of established substantial technical deficiency to such an extent which threatens lives and health of workers operating tools and equipment and in such workings which threaten workers' safety in the immediate vicinity or a part of underground mine or operating unit,
6. To remove from work a worker who after reminder and warning fails to comply with the prescribed measures and norms, particularly if such work threatens his safety and safety of other workers,

7. To make proposal to initiate a procedure against a person who fails to comply with measures related to occupational health and safety, fire control and working environment and environmental protection.

## **TRAINING ON OCCUPATIONAL HEALTH AND SAFETY**

### **TRAINING ON OCCUPATIONAL HEALTH AND SAFETY AND WORKING ENVIRONMENT AND ENVIRONMENTAL PROTECTION**

#### **Training and Education of Employees on Occupational Health and Safety**

Each worker who signs employment contract with the Company, before deployment to his workplace and tasks, must be informed about the work he is going to perform, occupational health and safety regulations and measures and fire control measures, hazards which may happen during work, as well as with organization and implementation of occupational health and safety and personal protection resources and equipment to be used.

The Company shall be obliged to maintain separate records on the training on newly hired workers, and a worker must not be deployed to his workplace without completed training. Workers re-hired to the same workplace or workers who performed similar work in another mining company or operating unit, will also have to be familiarized with the work and hazards according to a program which may be shortened, but they must be familiarized with working conditions and technological process.

All employees of the Company shall be subject to mandatory update and upgrade of their knowledge on occupational health and safety, irrespectively of their level of education, work experience and function they perform, and particularly the employees at managerial positions and workers who perform work under specific working conditions.

#### **Occupational Health and Safety Training for Newly Hired Workers**

A worker who is for the first time deployed to mining workplace must undergo minimum 15 days onboarding in the shift to which he is assigned, under direct supervision of an instructor appointed by the Company's responsible person and during that period such worker cannot independently perform any permanent task.

A worker who is redeployed to other work activities and tasks, before beginning of work must be familiarized with such work, regulations, occupational health and safety measures and hazards which may be associated with such workplace. During his work, the worker shall be obliged to continuously update and upgrade his knowledge on occupational health and safety.

Training for a position of transport, winch, pumping facility, low and high rail, etc. operator, shall be delivered based on the plan and program developed by operating unit manager, confirmed by Occupational Health and Safety Service and approved by technical executive director, and after completed exam, certificate shall be issued and recorded in the registry, and only thereafter the worker can be deployed at the position of equipment or facility operator in the underground mine or outside.

## **Occupational Health and Safety Training Topics**

During occupational health and safety, fire control and working environment and environmental protection training, responsible person of the Company's organizational unit to which the workers is assigned, shall be obliged to train the worker, particularly on:

1. Technological process, namely work process in the Company or operating unit, and particularly on the work activities and tasks the worker is to perform,
2. Hazards and dangers threatening occupational safety either due to use of dangerous tools or due to use of and exposure to certain material, as well as hazards and dangers which exist or occur during technological process or in any other way,
3. General and specific mitigation measures related to the said areas and reasons why such measures are envisaged and implemented,
4. Use of an appropriate personal protection equipment and rules of using working tools,
5. Rights and obligations related to implementation of occupational health and safety regulations and measures arising from this Rulebook and other regulations, as well as with the consequences of violation thereof,
6. Content and meaning of this Rulebook, rights and obligations arising therefrom, as well as measures and consequences of violation thereof,
7. Occupational Health and Safety organization and functioning, in particular organization and functioning of occupational health and safety in the Company and Occupational Health and Safety Service in the Company's operating units,
8. Other elements of importance for successful implementation of occupational health and safety measures in given area,
9. Organization of occupational health and safety,
10. Use of fire extinguishers.

## **MANNER OF TRAINING OF WORKERS ON OCCUPATIONAL HEALTH AND SAFETY AND WORKING ENVIRONMENT AND ENVIRONMENTAL PROTECTION**

### **Manner of Organization of Workers' Training on Occupational Health and Safety**

Training of workers on occupational health and safety in the said areas must be organized and programmed in such a way to address needs of each category of workers, having in mind general level of their technical and practical education. Training of workers in the areas of occupational health and safety, fire control and working environment and environmental protection shall be delivered in accordance with a separate program, which must be customized for given category of workers and cover all the areas relevant for that particular category of workers.

### **Responsibility to Organize Workers Training on Occupational Health and Safety**

Occupational health and safety training shall be organized by underground operations manager or operating unit manager through technical supervision staff of the organizational unit and training committee appointed by technical executive director. Attention should be paid that the training is organized in such a way that workers complement their knowledge on the given area during their work, in particular in case of:

1. Change of technological process which introduces different potential hazards,

2. Introduction of new tools and devices,
3. Reconstruction, repair, etc.,
4. Changed working conditions,
5. Amendment and modifications of regulations in given area,
6. Development of new technical norms and regulations.

## **EVALUATION OF WORKERS KNOWLEDGE ON OCCUPATIONAL HEALTH AND SAFETY, FIRE CONTROL AND ENVIRONMENTAL PROTECTION**

### **Evaluation of Workers Knowledge on Occupational Health and Safety**

Upon completion of theoretical and practical training of workers on occupational health and safety, fire control and environmental protection, the Company or contractor performing mining works, shall be obliged, to evaluate, through technical committee, knowledge of supervisory and technical staff, blasters, highly skilled and skilled workers whose work is directly related to mining activities, on regulations on technical measures and on occupational health and safety, as well as on emergency preparedness and rescue plan in case of sudden accidents, minimum once a year. Signalmen, facility operators, ventilator operators, operating unit attendants, as well as employees with special responsibilities related to emergency preparedness plan shall be also subject to knowledge evaluation.

### **Committee for Evaluation of Workers Knowledge on Occupational Health and Safety**

Knowledge on occupational health and safety and fire control shall be evaluated by a committee appointed by technical executive director upon request and proposal by underground operations, operating unit or service manager. The committee shall consist of Occupational Health and Safety Service staff and technical persons of particular profession (mining, mechanical, electrical, etc.) which is subject to evaluation. All members must have passed technical exam pursuant to the Mining Law. The committee must have a member representing Occupational Health and Safety Service. Workers subject to evaluation cannot be committee members.

### **Manner of Evaluation of Worker's Knowledge on Occupational Health and Safety**

Evaluation of knowledge on occupational health and safety, fire control and environmental protection is performed by taking oral exam or by written test, and as needed it can be done onsite. Unless the worker shows sufficient level of knowledge, exam can be repeated minimum after 30 days upon the previous exam, and the repeated exam date must be scheduled at least 15 days in advance to enable the candidate enough time to prepare himself for the exam.

### **Procedure in Case the Worker Fails to Pass the Repeated Exam on Occupational Health and Safety**

Workers who even at the repeated exam fail to achieve satisfactory result cannot work on the activities and tasks to which they are deployed, nor they can perform any other work subject to occupational health and safety and fire control knowledge evaluation.

The worker who refuses evaluation of knowledge on occupational health and safety, fire control and environmental protection related to the work to which he is deployed, cannot perform such work and that shall be considered severe violation of work obligations. In case of imposed measures referred to in the Section 1 and 2 of this Article, the worker shall be deployed to work or tasks corresponding to his qualifications and ability to work, but which do not require evaluation of knowledge on occupational health and safety, fire control and environmental protection.

### **Committee's Report on Competed Occupational Health and Safety Exam**

Expert committee which evaluated worker's knowledge required to perform certain work and tasks shall prepare report containing results of the evaluation for submission to technical executive director and Occupational Health and Safety Service. Worker who fails to pass the repeated exam shall be deployed to other work activities and tasks for the period of one year, until the repeated evaluation establishes that he acquired necessary knowledge on occupational health and safety and fire protection.

## **TECHNICAL EXAM**

### **Right to Take Technical Exam**

Mining jobs subject to technical exam include: technical management, mining works supervision and independent mining monitoring.

Operating unit manager shall submit written application for technical exam for each candidate with the proposed topic for written paper as chosen by the candidate, which should be approved by technical executive director. The application, accompanied by necessary technical documentation shall be submitted to the Occupational Health and Safety Service.

Occupational Health and Safety Service shall fill exam application and submit it, with the required documentation enclosed, to the Federation Ministry of Energy, Mining and Industry.

### **Technical Exam Committee and Place**

Technical exam for technical management and independent mining monitoring shall be taken before the committee appointed by the Federation Ministry of Energy, Mining and Industry which shall define place and time of the exam.

Exam costs shall be covered by the Company.

Exam for supervision over mining works shall be taken before the committee appointed by the Federation Minister, as needed, at the location of the Company.

## **WORKERS HEALTHCARE**

### **Health Certificate for Newly Employed Workers**

Newly employed worker cannot start working in the Company until he obtains appropriate health certificate, confirming that he is able to perform tasks for which he is hired or deployed to.

### **Institution Authorized to Issue Health Certificate**

The certificate referred to in the previous Article shall be issued only by the institution authorized pursuant to the Healthcare Law.

### **Preliminary and Regular Preventive Medical Examinations of Workers**

Preliminary and preventive periodic medical examinations of workers shall be performed by authorized healthcare facilities which have occupational medicine department and adequate staffing and equipment, namely which are registered for such exams.

### **Organization of Company's Workers Healthcare**

Preliminary medical examinations shall be organized and appropriate records thereon kept by HR department, while periodic ones shall be organized by operating units or their services. Operating unit officer or other authorized person, in cooperation with foreman or service manager, shall prepare medical examination plan to enable uninterrupted work process.

HR service employees – social workers shall be obliged to keep records on sick leaves, monitor workers' health status and analyze types of diseases and report to the Occupational Health and Safety Service twice a year.

### **Workers' Healthcare**

In order to monitor workers' healthcare, the Company shall be obliged to organize preliminary and periodic medical examinations of workers. All the workers who:

- Start working for the first time,
- Resume working after break longer than six months,
- Move from one job to another with significantly different working conditions or job requirements,

shall be subject to preliminary examination.

In the cases referred to in the previous Section, health certificates issued by healthcare facility which provides services to the Company shall be valid.

Occupational healthcare includes:

1. Operational healthcare measures to prevent injuries at work and occupational diseases,
2. First aid provision to injured employees,
3. Identification of physical and mental health requirements for certain jobs and task,
4. Participation in identification of causes and sources of injuries at work and occupational diseases.

### **Evaluation of Worker's Ability to Work**

Evaluation of ability to perform work and tasks to which a worker is deployed, as well as work under specific conditions, shall be determined in line with physical and mental health requirements for particular job and tasks.

### **Periodical Health Checks of Workers**

Company's organizational units which refer workers to periodic health checks and physical examination shall indicate jobs and tasks performed by each worker, as well as particular health requirements for given job.

Healthcare facility shall inform the Company's Occupational Health and Safety Service on health check finding, with indication whether the worker meets health requirements for

the job he performs or his health condition is changed and the worker must be redeployed to another job and tasks, for which working conditions must be specified.

### **Elements of Occasional – Periodic Health Checks**

Health check elements shall be defined based on hazards associated with production process, jobs and tasks and working environment, in accordance with applicable regulations and rules on content of preliminary and periodic health checks, as well as their timeframe.

### **Timeframe of Occasional – Periodic health checks and physical examinations**

The Company shall be obliged to ensure periodic health checks of all workers to monitor their psycho-physical condition and to enable early detection of disease and taking health protection and disease prevention measures.

Periodic health checks shall be performed in line with the following schedule:

- Blasters, explosive ordnance handlers    once in 12 months
- Other underground mine workers    once in 24 months
- Miners working on the surface    once in 24 months
  
- Administrative workers    once in 36 months

Special health checks shall be performed for:

- Rescue team members    once in 6 months,
- Rescue committee members (if they use insulation device)      once in 6 months,
- Blasters age 55+    once in 6 months
- Certified security staff shall be subject to special health checks.

### **Finding of Occasional – Periodic Health Checks**

If a periodic health check reveals that the worker developed professional disease or identifies initial signs of such a disease, healthcare facility shall inform thereon the Company's organizational unit as well as Occupation Health and Safety Service, latest within 15 days.

### **Deployment of Workers with Developed Disease**

Workers prone to or suffering from blackouts, muscle cramps, dizziness, impaired hearing, myopia, presbyopia, hernia and other similar health conditions, must not be deployed to work activities and tasks where their condition may present hazard for them or other workers during technological work process. If such conditions or diseases are developed and last during work period longer than one year, a worker shall be obliged to report that to his attending doctor or his immediate superior to take appropriate measures.

### **Plan and Schedule of Periodic Health Checks**

Health checks shall be organized, recorded and health status monitored by operating units and their services.

Workers' health check plan and schedule shall be developed by organizational unit officer (secretary) in cooperation with technological process manager in order to inform workers



on time. Health checks shall be scheduled per shifts, when given shift does not work to avoid work interruption and losses in work process.

### **Workers Periodic Health Check Costs**

Costs of workers periodic health checks shall be covered by the Company. If the worker fails to attend the health check at the scheduled time for unjustified reasons, such worker shall not be allowed to work until the envisaged health check is performed by authorized institution at worker's costs and the worker presents certificate and findings of the performed health check and his ability to work. Justified reasons include: sickness, traffic accident, military service and other obligations, for which an evidence must be presented.

## **SPECIAL PROTECTION OF WORKERS**

### **Special Protection of Employees**

Workers below 18, disabled workers with category II disability, and Company workers shall be entitled to special protection as provided by Law, Labor Rulebook and the provisions of the Occupational Health and Safety Rulebook.

## **PROTECTION OF WOMEN AND MOTHERHOOD**

### **Protection of Female Workers**

Female worker cannot be employed on underground jobs in mines, unless she has managerial position which does not require physical work or works in healthcare and social protection services, or has to spent certain time underground for training purposes or occasionally goes underground to perform tasks which do not involve physical work. Female workers shall not be allowed to work underground during night. Only female workers with special authorities and responsibilities, as well as female managers may be allowed to work during night.

### **Protection of Motherhood**

Pregnant woman and mother of a child under the age of 3 cannot be assigned overtime or night work, without her written consent, not even on exceptional basis. Pregnant women cannot be assigned to work at height, on forklift, as energy facilities operator and work on conveyor belt in serial production.

## **MINOR WORKERS**

### **Protection of Minor Workers**

Minor workers between the age of 15 – 18 cannot work on external and internal transport, work in the underground mine, perform tasks involving hard labor. Minor employee shall be entitled to annual leave of minimum 24 working days.

### **Work Schedule and Workplace of Minor Workers**

Employee younger than 18 can work neither longer than full time nor during night between 7.00 p.m. and 7.00 a.m. the next day. Exceptionally, minor employees may be temporarily

excepted from night work ban in case of an incident, force major or protection of national interest, based on approval by responsible Cantonal government authority. Persons below 18 cannot be assigned either temporary or permanent work on height, roofs, assembling of prefabricated buildings, etc. Persons below 18 cannot work on jobs with special working conditions.

Nevertheless, in order to avoid unnecessary risks, since construction and mining activities potentially involve hazardous work, even after implementation of mitigation and safety measures, **persons below 18 are not hired under the Project.**

Having in mind the nature of the equipment retrieval activities, no new workers would be hired for the Project, all the activities would rather be performed by the existing labor force. Sexual exploitation and abuse/sexual harassment (SEA/SH) risk is assessed as low. The identified SEA/SH risk can be mitigated by awareness raising on Code of Conduct, training of contracted workers on SEA/SH issues, as well as by strengthening GM in terms of the procedures related to SEA/SH grievances.

### 15.3. Overview of Labor Legislation

According to the Project LMP conclusions, FBiH Labor Law is to a significant extent in line with ESS2, with exception of several gaps. Labor Law does not specify precisely whether the earned salaries, social and pension insurance contribution and other benefits must be paid on the contract termination day or earlier. ESS2 specifically requires such payment to be made before or on the contract termination day. Although workers are entitled to increased pay rate for night work, work on national and religious holidays, the Law does not precisely determine level of such increase. Although the Law forbids hiring persons below the age of 15, it does not explicitly prevent hiring persons between 15-18 on jobs which may hinder child's education. Labor Law envisages Grievance Mechanism for workers. The Article 55 of the Law obliges the employer to inform the employee on labor regulations during hiring procedure. However, there is no specific provision which would oblige the employer to inform future employees on Grievance Mechanism during hiring procedure.

More detailed list and description of labor legislation is available in the Project LMP.

### 15.4. Overview of Occupational Health and Safety Legislation

This Section identifies national labor legislation's key aspects related to occupational health and safety and how national legislation is applied to different types of works identified in the Section 1. The overview is focused on legislation related to the items specified in ESS2, points 24 through 30.

In Bosnia and Herzegovina, occupational health and safety, as a subject of general interest, falls under responsibility of the Entity level. Key piece of legislation that regulates occupational health and safety in Federation of BiH is the Occupational Health and Safety Law. The Law defines occupational health and safety measures, employers' obligations

and employees' rights and responsibilities in the area of occupational health and safety, as well as occupational risks mitigation measures, elimination of accident risk factors, information, consultation, training of workers and their representatives and their engagement in planning and implementing occupational health and safety measures. The 2020 Occupational Health and Safety Law (OHSL) directly implements and incorporates in the Federation of BiH legal system EU Council Directive 89/391/EEC of June 12, 1989 on the introduction of measures to encourage improvements in the occupational health and safety and health. Occupational health and safety is responsibility of each legal entity and natural person who employ one or more workers, including public services (employer), government and other authorities, unless otherwise specified by law. This is also applied to self-employed persona and persons employed otherwise.

The Law prescribes number of obligations of employers, including development of a risk assessment, training of workers to work in a safe manner, and provision of medical examinations for workers employed in certain jobs. Focus is on the principle of workplace injury prevention through risk assessment, which the employer is obliged to perform for each workplace, and to identify jobs with increased risk. The employer is obliged to determine organization of occupational health and safety in its internal regulation and it is necessary to define which personal protection equipment and resources workers must have. The Law does not specify protection measures for certain types of jobs, but that part is regulated by 29 different regulations majority of which date back from SFRY period and some of them even from FNTY period.

In addition to taking care of the workers, it is necessary to ensure the adequate working environment. In this regard, employers are obliged to ensure testing of electrical installations and other factors in the working environment, as well as testing of work machines and work equipment to ensure their proper performance. In order to ensure that the employees have the highest level of protection, the Law stipulates that only authorized companies can perform tasks related to provision occupational health and safety services. It is necessary to keep accurate records of everything on prescribed forms.

The employer's legal obligation is to provide training and training of workers on occupational health and safety before the start to work, when any substantial changes of work process are introduced and in case the workers is deployed to a new workplace. Training must be repeated periodically so that workers are ready to apply regulations and safety rules at work at all times

In addition to these provisions, also the provisions on occupational health and safety regulated by the FBiH Mining Law are of crucial importance, because retrieval of mining equipment is also a mining activity and is governed by the provisions of these laws.

The FBiH Mining Law stipulates that every employee who signs employment contract with mining company must be informed about the work he will perform, the regulations and safety measures at work and fire protection measures, with the dangers that may

arise in the work, before being assigned to jobs or tasks, as well as with the organization and implementation of occupational health and safety in the company (Article 52). The company is obliged to adopt special programs to acquire knowledge on occupational health and safety according to the type of work and the skills of the employees. The Company, is obliged to organize the familiarization of all employees with occupational health and safety regulations and measures, as well as on implementation of Emergency Preparedness and Rescue Plan in cases of sudden accidents (article 54). Article 59 stipulates that mining company is obliged, before carrying out rehabilitation and technical recultivation of devastated areas to implement safety measures in order to permanently remove people life and health and property damage hazards and potential causes of environmental pollution, i.e. damage of buildings and the environment. Supervision over the implementation of the law is carried out by Cantonal and Federation Mining Inspectors.

Detailed list and description of the occupational health and safety legislation is available in the Project LMP.

#### 15.5. Responsible Staff

Federation Ministry of Energy, Mining and Industry (FMERI) as the BiH Just Transition Project implementing agency and Zenica BCM shall be responsible of implementation and supervision of these Labor Management Procedures. FBiH PIU responsibilities related to these Labor Management Procedures shall be the following:

- Monitoring the implementation of this LMP.
- Updating this LMP when necessary in the course of preparation, development and implementation of the Project, as well as in case the national legislation changes in any aspects of importance for this Procedure.
- Engaging and managing ministry employees and any external consultants (as direct workers).
- Monitoring the implementation of requirements of this LMP by contractors and subcontractors whose workers are considered to be contracted workers.
- Establishment and maintenance of grievance mechanisms in compliance with requirements of this LMP.
- Apply this labor management procedure to project workers.
- Ensure that contractor(s) responsible for [include activity] prepare their labor management procedure, in compliance with this labor management procedure, and occupational health and safety plan before [include stage].
- Monitor and report on implementation of project contractors' labor management procedures.
- Monitor that the contractors are meeting obligations towards contracted and sub-contracted workers as included in the General Conditions of Contract the World

Bank Standard Bidding Documents, and in line with ESS2 and FBiH Labor Act and occupational health and safety laws.

- Maintain records of recruitment and employment process of direct workers.
- Monitor employment process of contracted workers to ensure it is carried out in accordance with this labor management procedure and FBiH Labor Act.
- Monitor that occupational health and safety standards are met at workplaces in line with national occupational health and safety legislation, ESS2 and Occupational Health and Safety Plan.
- Ensure that project workers receive training on SEA/SH prevention and Code of Conduct at the start of the employment and monitor SEA/SH prevention measures implementation during the life of the project.
- Ensure and monitor training of the project workers on OHS, and any other required trainings.
- Ensure that the grievance mechanism for project workers is established, monitor and report on its implementation.
- Ensure that dedicated SEA/SH grievance mechanism is established, monitor and report on its implementation.
- Monitor implementation of the workers Code of Conduct.
- Establish and implement a procedure for documenting specific incidents such as project-related occupational injuries, illnesses, lost time accidents and incidents related to sexual exploitation and abuse and sexual harassment. Maintain such records and require from all third parties and primary suppliers to maintain them. Such records will form an input into the regular review of OHS performance and working conditions.
- Implement disciplinary measures in instances of sexual exploitation and abuse and sexual harassment misconduct.
- In instances of medium, severe, fatal, and mass accidents, inform the law enforcement bodies and Labor Inspectorate.
- Ensure that mine companies prepare retrenchment plans and carry out consultations with unions prior to any collective workforce reductions. The World Bank should provide No Objection to retrenchment plans.

FMERI shall be responsible of monitoring and reporting to the World Bank..

#### 15.6. Policies and Procedures

Policies and procedures adopted for this Project would enable achievement of ESS2 standards objectives and full compliance with FBiH Labor Law.

**Non-discrimination:** As stipulate in the FBiH Labor Law, engagement of Project works shall be based on non-discrimination and equal opportunities principles. There shall be no discrimination in any aspect of labor engagement, such employment, remuneration,

working conditions and hiring requirements, access to training, promotion or employment contract termination. Any form of discrimination based on gender, sexual orientation, age, race, ethnic background, political affiliation, social background, residency, disability, trade union membership or active engagement, or any other criteria not related to the quality of professional work, shall be forbidden.

In case of preparatory works for Raspotocje underground mine closure, no new workers would be engaged, but all the activities shall be performed by RMU Zenica existing workers.

Below specified occupational health and safety policies and procedures shall be followed:

**Occupational Health and Safety Plans:** The Borrower will include into the bidding documents specific occupational health and safety standard requirements that all contractors and sub-contractors will meet under this project. The standards will be consistent with local regulations, World Bank EHS guidelines and GIIP (Good International and Industry Practices). The following OHS standard requirements should as a minimum be included in the OHS Plan to be prepared by the contractors:

- Risk Assessment Procedure.
- Work permitting for hazardous work (working at heights, hot work, work on energized lines, work within confined spaces).
- Golden rules for life threatening works.
- Emergency response procedure.
- Fall prevention and working at heights.
- Excavation, ladders, and scaffolders safety; welding and cutting safety; cranes, derricks, and forklifts safety; power and hand tools safety.
- Respiratory prevention to chemical and airborne hazards (including dust, silica and asbestos); electrical safety (hazardous energies control, lock out tag out, energy verification, safe distance work, wiring and design protection, grounding, circuit protection, arc fault protection, electrical safety, PPE and dielectric tools); hazards communication; noise and vibration safety; steel erection safety; fire safety; material handling safety; concrete and masonry safety.
- Construction PPE.
- OHS training.
- Refuse to work policy

**Occupational health and safety staff:** In addition, occupational health and safety plans, will among other issues, include the following: the construction contractor will define an OHS accountability matrix for all staff including Project manager, contract manager, OHS staff, foremen, and all employees with clear occupational health and safety roles and responsibilities. Each Contractor must have its own occupational health and safety staff that will be responsible for the implementation and supervision of the occupational health and safety program

**Risk Assessment:** All contractors are required to develop risk assessment analysis to identify hazards and occupational health and safety risk. The contractors will develop risk management plans, including Risk Assessment Procedures, to mitigate OHS risks. The procedure should aim to establish and maintain a safe working environment, including that workplaces, machinery, equipment, and processes under their control are safe and without health risk. The Contractors must keep records on training.

**Safety Standards and personal protection equipment:** Contractors will provide a safe workplace, therefore a risk assessment will be completed before the commencement of any construction activities, and safety measures will be implemented in accordance with applicable safety standards. All employees will strictly follow Golden rules<sup>49</sup> for life threatening works (occupational health and safety rules that must not be violated in any circumstances), which will be enforced under contractual matrix of consequences. The employer will provide special clothing, footwear, and other personal protection equipment (PPE) to employees free of charge. Such PPE is to be delivered to employees involved in work related to the elimination of the consequences of accidents and natural disasters. When the PPE is dysfunctional, the employer is obliged to replace PPE at their own expense without the employee's responsibility. If the employee purchases PPE at their own expense, the employer is obliged to reimburse such costs

**Occupational health and safety training:** The employer is responsible for providing OHS training to employees in language understandable to the workers before the work is commenced on:

- General principles of health and safety.
- Working procedures, equipment, machinery, and manual and instructions for the use and repair of work equipment.
- Emergencies and evacuation plans, and their implementation activities.
- Existing threats and risks and also on measures to be taken with regards to overcoming such situations.

Contractors will control the access to the construction site only to authorized people and verify if workers are meeting training and accreditation requirements in accordance with the set training standards and applicable regulatory requirements (i.e., in many countries truck drivers, crane and derrick operators must be accredited, as well as electricians. Workers must be trained to perform hazardous works such as working at heights, confined spaces, welding etc.). All workers must complete at minimum an OHS induction to have access to the construction site.

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<sup>49</sup> Golden rules usually address issues such as work at heights, work in confined spaces, excavation work, personal protective equipment (PPE), system of work permits, lifting, working on powered systems, traffic, work in high risk situations, etc. Employers should define their Golden rules in accordance with the nature of work.

**Refuse to Work Policy:** Employees have a right to refuse to perform tasks or instructions assigned by the employer, which present health and safety risks for the employees. Employees are entitled to leave the workplace in the event of danger. The contractors will not dismiss an employee from their job or place them in a less advantageous position than other employees if such employees exercise the rights of reporting or leaving the workplace during the threat of danger.

All the contractors shall be obliged to take appropriate protective measures whenever avoidance of health and safety hazards is not possible. These measures include controlling the hazard at source using protective solutions and providing adequate personal protection equipment (PPE) at no cost to the project/sub-project worker.

The employer will develop and implement reporting system for any accidents, diseases, and incidents.

All contractors shall be obliged to take appropriate protection measures whenever it is not possible to avoid health and safety hazards. These measures include controlling the hazard at source using protective solutions and providing adequate personal protective equipment (PPE) at no cost to the project/sub-projects worker.

**Occupational health and safety committee:** Occupational health and safety committee for construction works will be established with representatives of employees, the Borrower and all subcontractors. Occupational health and safety meetings will be held once in two weeks to discuss preventive measures, deviations and non-compliances, accidents and corrective actions. Contractors will conduct internal occupational health and safety surveys and audits to verify compliance of occupational health and safety practices. Non-compliances will be documented and reported internally. A time frame for a corrective action will be set and followed up. Daily occupational health and safety briefings will be conducted before the commencement of the works highlighting the hazards and preventive measures from each job. Contractors will document and report to the Borrower all accidents and illnesses with a day lost or more, fatalities or serious injuries that may happen at the work site. Women will be included in the occupational health and safety Committees

The employer will develop and implement reporting system for any accidents, diseases, and incidents.

**First Aid:** There must be on site resources for first aid and for more serious injuries. Furthermore, there must be a pre-approved health facility for medical treatment, as well as appropriate transportation of injured workers. Projects with major civil works should have medical doctors on site.

**Workers' accommodation:** If accommodations are provided for workers, Contractors will ensure that they are provided in good hygiene standards, with fresh drinking water, clean beds, restrooms and showers, clean bedrooms, good illumination, lockers, proper



ventilation, safe electrical installation, fire and lightning protection, separate cooking and eating areas. There will be separate facilities provided for men and women. The contractors will be obliged to comply with "Workers' Accommodation: processes and standards A guidance note" by IFC and the EBRD

**Monitoring and Reporting:** The Supervision Consultant will conduct periodic supervision of contractor's occupational health and safety performance, including site visits, at least monthly and weekly in case of large infrastructure works. These supervisions will cover compliance with above mentioned standards, accidents, violations of golden rules, recommendations, and progress of ongoing corrective actions. The Borrower will include in the contract(s) as requirement for contractors to report on issues such as number of accidents rates, severity rates, number of recurring non-compliances, violations of Golden rules, fatalities and serious injuries; and penalties for non-completion. Furthermore, the supervision consultant will review and approve contractors' safety plans and procedures. The contractors will be required to provide the periodic information on the performance in terms of labor, occupational health and safety issues. The information will be included in the construction contractor's monthly report and will be reviewed by the supervision consultant's team

In addition, the contractor shall report to the Borrower about any inspections and audits carried out by the respective ministries such as the Labor Inspection. The findings of the labor audits will be presented to the Borrower and the Bank, upon request.

**Reporting on accident and incidents:** Immediately or not later than 24 hours, the PIU or the contractor shall report to the Labor Inspectorate and the Ministry of Interior (police), verbally and in writing, any fatality, collective or individual serious injury, due to which the employee is unable to work for three consecutive working days, as well as any dangerous event that may put health and safety of the employees at risk.

The PIU will inform the Bank immediately or not later than 48 hours about any incident or accident related to the project which has, or is likely to have a significant adverse effect on the environment, the affected communities, the public or workers (labor, health and safety, or security incident, accident or circumstance), but no later than three calendar days after the occurrence of the event. Such events can include strikes or other labor protests, serious worker injuries or fatalities, project-caused injuries to community members or property damage, cases of SEA/SH, environmental damages such as leakages, explosions, etc.. The PIU will prepare a report on the event and the corrective action and submit to the Bank within 30 calendar days of the event.

Contractors shall use the recommended format for Report on Compliance with Conditions of Work with ESS2, provided in Annex 1 of this LMP, to prepare reports on labor & OHS issues.

**Code of Conduct:** The construction contractor will develop and implement Code of Conduct. The construction contractor should also submit the Code of Conduct to supervision consultant for review and approval. The Code of Conduct will reflect the

company's core values and overall working culture. The content of the Code of Conduct is included in the World Bank Standard Bidding Documents and will include provisions relating to SEA/SH prevention.

**Sexual Exploitation and Abuse (SEA) and Sexual Harassment (SH):** Sexual exploitation is any actual or attempted abuse of a position of vulnerability, differential power or trust for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another (UN Glossary on Sexual Exploitation and Abuse 2017, pg. 6). Sexual abuse is actual or threatened physical intrusion of a sexual nature, whether by force or under unequal or coercive conditions (UN Glossary on Sexual Exploitation and Abuse 2017, pg. 5). Sexual harassment is any unwelcome sexual advances, request for sexual favors, and other verbal or physical conduct of a sexual nature. Project workers are prohibited to commit any acts of SEA/SH. Project workers are required to sign a Code of Conduct at the start of employment. Project workers will receive a training on the Code of Conduct and prevention of SEA/SH.

The FBiH laws prohibits harassment and sexual harassment at the workplace. Harassment is defined in the Labor Act as any unwanted conduct aiming at or amounting to the violation of dignity of a person that seeks employment, or an employed person, which causes fear or creates a hostile, degrading or offensive environment. Sexual harassment is any verbal, non-verbal or physical behavior aiming at or amounting to the violation of dignity of a person seeking employment, as well as of an employed person in the sphere of sexual life, and which causes fear or creates a hostile, degrading or offensive environment.

The Law on Gender Equality of Bosnia and Herzegovina (not adopted at Entity level) provides that harassment, sexual harassment or sexual extortion at work or related to work, which is committed by an employee to other employee are considered violation of duties at work and the grounds to terminate the employment contract and to expel the employee from work. An employee should inform the employer in writing about the circumstances indicating his/her exposure to harassment, sexual harassment or sexual blackmail and request efficient protection.

Harassment is defined in the Labor Act as any unwanted conduct aiming at or amounting to the violation of dignity of a person that seeks employment, or an employed person, which causes fear or creates a hostile, degrading or offensive environment. Sexual harassment is any verbal, non-verbal, or physical behavior aiming at or amounting to the violation of dignity of a person seeking employment, as well as of an employed person in the sphere of sexual life, and which causes fear or creates a hostile, degrading or offensive environment.

#### 15.7. Employment Age

Bosnia and Herzegovina has ratified both the ILO Minimum of Age Convention (C138) and the ILO Worst Forms of Child Labor Convention (C182). The age at which

employment is allowed is 18, as prescribed by the Labor Act in Federation of Bosnia and Herzegovina.

The minimum age of employment for this project shall be 18 years and to ensure compliance, all employees will be required to produce one of the documents below for age verification purposes:

- a document confirming the age of the person (a birth certificate and/or health insurance card); or
- personal identification card or passport; or
- school certificate.

The necessary conditions and the minimum age for each labor position shall be specified in the recruitment process with special emphasis on the fact that persons younger than 18 shall not be engaged on tasks that could be dangerous for psychological or physical health of a person. In the recruitment process, documentation shall be sought from the candidates, with which the age of the candidates shall be verified.

If it is determined that a minor is engaged in project activities, the PIU will notify the competent labor inspection and terminate the employment relationship in a responsible manner, taking into account the best interests of the child. No other age restrictions will be imposed during employment.

#### 15.8. Terms and Conditions

This section sets out details regarding:

- Specific wages, hours and other provisions that apply to the project.
- Maximum number of hours that can be worked on the project.
- Any collective agreements that apply to the project. When relevant, provide a list of agreements and describe key features and provisions.
- Other specific terms and conditions.

The employers of both direct workers and contracted workers shall be under the obligation to prepare information and necessary documentation that is clear and understandable for workers in regard to their conditions in employment. Prepared information and documentation shall be in compliance with the Labor Act of FBiH.

Based on these laws, the terms and conditions of employment or engagement of the project worker must meet, inter alia, the following standards:

- The project worker should in advance be clear about the job one is going to do and the wage/salary/fee one is going to receive.

- The project worker will be paid on a regular basis, at least once a month, or, if so agreed, upon the completion of specific activities, in accordance with the employment contract or engagement agreement.
- Provide for employers to conduct an appropriate risk assessment prior to the work commencement by persons between the ages of 15 and 18 years.
- Provide that a child under the age of 18 is not engaged in night work.
- Include if there are any Collective Agreements which apply to employees.
- As per Federation of BiH Labor Act, the working week lasts five days, and regular working time per week is 40 hours. Overtime may not last more than eight hours a week.
- The project worker will work 8 or fewer hours a day. Any work longer than 8 hours is considered overtime work and the project worker should receive extra payment for the hours of overtime work. In any case, the project worker cannot work more than 12 hours a day.
- The project worker is entitled to a daily rest of at least 12 hours within 24 hours.
- The project worker is entitled to a weekly rest of at least 24 consecutive hours.
- Average weekly hours of work in a six-month period cannot exceed 40 hours.
- The project worker is entitled to annual, sick, maternity and family leave, as required by the Labor Acts in both Entities. Where the national legislation does not stipulate entitlement to leaves on any ground (i.e. temporary or seasonal work), the contracted party will provide the project worker, at his/her request, with a reasonable period of leave taking into consideration all the circumstances.
- An employment contract or engagement agreement, except in case of permanent employment, ends on the date of its expiry, unless both parties have agreed otherwise. In case of an early termination, a written notice will be submitted at least 15 days in advance. The termination of employment contract and payment of any related entitlements will be done in compliance with the national legislation. All wages earned, social security benefits, unused leave time, pension contributions and any other entitlements will be paid on or before termination of employment contract. The notice periods shall be compliant with FBiH Labor Act requirements.
- The third party will assess the risk related to specific jobs. In conformity with the national legislation, the third party will be responsible for taking preventive and protective measures to ensure a safe and healthy work environment and informing the project worker on all the relevant issues and conditions affecting his/her health and safety at work. The project worker will respect regulations relating to safety and protection of life and health at work in order not to put in danger his/her life and health or life and health of others.
- The third party will make effort to establish mechanisms that will prevent discrimination, harassment, sexual harassment and abuse at work and ensure equal treatment and equal opportunity for all.

- Project workers have the right to form or join union or other organizations of their choosing and to bargain collectively, in accordance with the national legislation. The employer (third party) will not interfere with the worker's right to choose the organization or opt for an alternative mechanism to protect their rights regarding working conditions and terms of employment
- The project worker will be able to raise his/her grievances using the grievance mechanism communicated to them.

The contractors' labor management procedure will set out terms and conditions for the contracted workers. These terms and conditions will be in line, at minimum, with this labor management procedure, national Labor Law and General Conditions of the World Bank Standard bidding documents and comparable industry standards.

#### 15.9. Workers Grievance Mechanism

In accordance with ESS2, the grievance mechanism (GM) should be provided for all direct and contracted workers, with the aim to address workplace concerns. The main objective of a worker GM is to ensure timely, effective and efficient resolution of complaints and grievances related to labor and working conditions. Workers will be informed of the grievance mechanism at the time of recruitment and the measures put in place to protect them against reprisal for its use. Measure will be put in place to make the grievance mechanism easily accessible to all such project workers. Project workers will be able to raise concerns regarding a broad range of labor and employment concerns including terms and conditions of employment, discrimination, SEA/SH, unsafe or unhealthy work situations through the grievance mechanism. As part of the LMP, the contractor will establish and describe the details of an appropriate workplace grievance mechanism consistent with the ESS2 requirements (including a written record, established responsibilities and response time, etc). The PIU will review the records on a monthly basis and report on the grievances, response time and resolution status in a quarterly report to the WB. The format on Workers' Grievance is attached in the **Annex 4** of this LMP.

In line with ESS2 requirements and national legislation related to collective agreements clauses, the grievance mechanism established under ESS2 does not replace or override the requirements to provide workplace processes to report work situations that a project worker believes are not safe or healthy referred to in paragraph 27 of ESS2. The Borrower and third parties inform direct and contracted workers, respectively, about the available grievance mechanisms, and how they work. The relevant information should be made available throughout project duration in a manner that is clear, understandable, and accessible to workers, for example, by including it in workers' handbooks, on notice boards, or through similar communication mechanisms.

The LMP include reasonable measures so that direct and contracted workers are not subjected to any form of retaliation as a result of any grievance raised. Such measures

may include the need for confidentiality. The grievance mechanism will not impede access to other judicial or administrative remedies that might be available under the law or through existing arbitration procedures, or substitute for grievance mechanisms provided through collective agreements. Some of such mechanisms are described in the **Annex 2** of the ESMP.

Zenica BCM will develop and implement a grievance mechanism for direct workers to address workplace concerns. The grievance mechanism will be established by the beginning of the project implementation and will be maintained over the life of the project.

The workers' grievance mechanism will include, at minimum:

- a procedure to receive grievances such as comment/complaint form, suggestion boxes, email address, a telephone hotline, focal point department;
- stipulated timeframes to respond to grievances and to address cases;
- a register to record and track the timely resolution of grievances;
- a responsible department to receive, record, address and track.

The Workers' grievance mechanism will be described in staff induction trainings, which will be provided to all project workers. The mechanism will be based on the following principles:

- The process will be transparent and allow workers to express their concerns and file grievances.
- There will be no discrimination and retaliation against those who express grievances, and any grievances will be treated confidentially.
- Anonymous grievances will be treated equally as other grievances, whose origin is known.
- Management will treat grievances seriously and take timely and appropriate action in response.
- Any worker including subcontracting workers can express concerns, complaints, and grievances at any time, without fear of retribution and retaliation.
- All grievances will be treated in a fair and respectful manner.
- Anonymous grievances will be treated equally as other grievances whose origin is known.
- When a grievance is received, the PIU will ensure to confirm its receipt within [include number of days] business days. At this time, the complaint will also be provided information about response times, next steps and a contact within the team.
- All grievances will be documented to the grievance mechanism, including those received by supervisors, project managers, or any management staff.

- Grievance mechanism will have a dedicated procedure to address complaints related to workplace harassment and sexual harassment. The sexual harassment grievance mechanism shall be operated by the trained staff and complaints will be recorded and kept in a data protected data base,

Information about the existence of the grievance mechanism will be readily available to all project workers (direct and contracted) through notice boards, the presence of “suggestion/complaint boxes”, and other means as needed.

GM Focal Points shall be trained to operate grievance mechanisms and to maintain confidentiality.

The Project workers’ grievance mechanism will not prevent workers to use any other administrative or judicial mechanisms provided by the national laws.

Workers Grievance Redress Committee, which includes trade union representative, has been appointed by the Director’s Decision.

Workers Grievance Redress Committee shall review Zenica BCM workers’ grievance related to workplace. Any worker shall have right to submit grievance to the Grievance Committee during Project implementation period. The grievance can be submitted also anonymously. The Committee shall review and respond to each grievance within 15 days upon receipt thereof. The Committee shall inform the Mine Management on the grievance and the response thereto.

A worker can submit grievance in the following manner:

- At the Coalmine’s reception desk in a closed envelop with a note: “Do not open – Grievance Redress Committee”.
- By post office addressed to : Rudnik mrkog uglja „Zenica“ d.o.o Stjepana Radića 2, 72000 Zenica, in a closed envelop with a note: “Do not open – Grievance Redress Committee”,
- By e-mail:[rmuzenica.zalberadnika@outlook.com](mailto:rmuzenica.zalberadnika@outlook.com)

Each grievance shall be recorded and documented in the “Grievance Registry” where both the grievance and the response thereto shall be entered.

In its work the Committee shall follow the below listed principles:

- The process will be transparent and allow workers to express their concerns and file grievances.
- There will be no discrimination and retaliation against those who express grievances, and any grievances will be treated confidentially.
- Anonymous grievances will be treated equally as other grievances, whose origin is known.
- Management will treat grievances seriously and take timely and appropriate action in response.

- Any worker including subcontracting workers can express concerns, complaints, and grievances at any time, without fear of retribution and retaliation.
- All grievances will be treated in a fair and respectful manner.
- Anonymous grievances will be treated equally as other grievances whose origin is known.



# **STAKEHOLDER ENGAGEMENT PLAN**

## 16. Stakeholder Engagement Plan

During preparation of BiH Just Transition in Select Coal Regions Project, Stakeholder Engagement Plan (SEP) was prepared. SEP was publicly disclosed and consulted in October 2024 and it is available at Federation Ministry of Energy, Mining and Industry web site.<sup>50</sup>

Stakeholder Engagement Plan in this ESMP presents a detailed action plan to be implemented to engage all stakeholders during Preparatory Works (equipment – long wall retrieval) for Raspotocje Underground Operations closure. Information disclosure would be done continuously during the project implementation period in line with the World Bank ESS10 procedures on stakeholder engagement plan, in accordance with the Table below.

Stakeholder engagement activities are proposed to provide stakeholders with relevant information and opportunities to voice their views on topics that matter to them. Stakeholder engagement will also be gender sensitive. The project will encourage participation of women and highlight Project characteristics that are designed to respond to their needs and increase their access to Project benefits. The Project will carry out targeted consultations with vulnerable individuals and groups to understand their concerns/needs in terms of accessing the information.

The activity types and their timing are adapted to the three main project stages:

- Project preparation (including preparation of ESMF, ESCP, LMP, LULRF<sup>51</sup>, and SEP; preparation of site-specific LULRFs and ESMPs);
- Project implementation (including calls for grant applications, procurement of contractors and supplies, provision of services/civil works);
- Project monitoring (during and after project implementation).

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<sup>50</sup><https://fmeri.gov.ba/vijesti/posts/2024/october/javni-poziv-za-uvod-u-dokumente-i-odrzavanje-javne-rasprave-vezano-za-realizaciju-projekta-pravedne-tranzicije-u-odabranim-regijama-bogatim-ugljem-u-bosni-i-hercegovini/>

<sup>51</sup> Land Use and Land Repurposing Framework

Target stakeholders	Information/documents to be disclosed	Disclosure channel	Timing/ Frequency	Responsibilities
All stakeholders	<ul style="list-style-type: none"> <li>Project ESF documents in line with the World Bank policies (ESMF, LMP, SEP)</li> </ul>	<ul style="list-style-type: none"> <li>PIU/FMERI website, Zenica BCM website</li> </ul>	<p>Upon completion of the draft documents to enable public consultations, then disclose final versions</p>	<ul style="list-style-type: none"> <li>PIU/FMERI, Zenica BCM</li> </ul>
	<ul style="list-style-type: none"> <li>Brief reports on project progress</li> <li>Summaries of stakeholder engagement activities</li> </ul>	<ul style="list-style-type: none"> <li>PIU/FMERI and Zenica BCM websites</li> </ul>	<p>Quarterly</p>	<ul style="list-style-type: none"> <li>PIU/FMERI, Zenica BCM</li> </ul>
	<ul style="list-style-type: none"> <li>Project announcements (timing of project activities and related information)</li> <li>Invitations to public consultations</li> </ul>	<ul style="list-style-type: none"> <li>PIU/FMERI and Zenica BCM websites</li> <li>Announcements via various media and press releases</li> </ul>	<p>Regularly in line with project schedule</p>	<ul style="list-style-type: none"> <li>PIU/FMERI</li> <li>Zenica BCM</li> </ul>
All PAPs and Vulnerable individuals/households	<ul style="list-style-type: none"> <li>Information about Grievance Redress Mechanism (GRM) process (incl. info on local admission points)</li> </ul>	<ul style="list-style-type: none"> <li>PIU/FMERI and Zenica BCM websites</li> </ul>	<p>Upon sub-projects identification</p>	<ul style="list-style-type: none"> <li>PIU/FMERI</li> <li>Zenica BCM</li> </ul>
PAPs and Vulnerable individuals/households: <ul style="list-style-type: none"> <li>Trade Unions of FBiH, Banovići, Zenica and Kreka</li> <li>Workers of Mines Banovici, Zenica and Kreka;</li> <li>Local businesses communities</li> <li>Local communities</li> <li>Unemployed workers;</li> </ul>	<ul style="list-style-type: none"> <li>Establishment of In-House Labor Transition Units in the Mines</li> <li>Information on Voluntary Cash Incentives and productive measures to support the transition into alternative work</li> <li>Information on strengthening the capacity of local and Cantonal Employment Offices</li> <li>Labor Market Measures</li> <li>Measures and early retirement incentives</li> </ul>	Websites of: <ul style="list-style-type: none"> <li>PIU/FMERI</li> <li>Local self-governance units/local communities in sub-project areas</li> <li>Cantonal Employment Offices</li> <li>Local Employment Offices</li> <li>Publications via various media and press releases</li> </ul> Information boards/info desk at coal mines Face to face meetings – if needed Consultations with communities and workers Written information – brochures, posters, leaflets, websites	<p>Upon sub-projects identification</p>	<ul style="list-style-type: none"> <li>Mines Banovići, Zenica, Kakanj and Kreka, and Trade Unions</li> <li>PIU/FMERI</li> <li>Responsible departments in Local Governments</li> <li>Cantonal Employment Offices</li> <li>Local Employment Offices</li> </ul>
OIPs: Media (TV, radio, electronic)	<ul style="list-style-type: none"> <li>Project announcements (timing of project activities and related information)</li> <li>Invitations to public consultations</li> <li>Information on planned meetings</li> <li>Other relevant project information,</li> </ul>	<ul style="list-style-type: none"> <li>Official correspondence (e-mail/ Fax/ post)</li> </ul>	<p>Regularly in line with project schedule</p>	<ul style="list-style-type: none"> <li>PIU/FMERI</li> </ul>

Target stakeholders	Information/documents to be disclosed	Disclosure channel	Timing/ Frequency	Responsibilities
	as appropriate			

All the stakeholders will be also timely and continuously consulted in line with ESS10, in line with the below Table:

Target stakeholders	Information/documents to be disclosed	Disclosure channel	Timing/ Frequency	Responsibilities
<b>Project preparation (including preparation of ESMF, ESCP, LMP, LULRF, and SEP; preparation of site-specific LULRFs and ESMPs);</b>				
All key stakeholders	<ul style="list-style-type: none"> <li>Project documents in line with the World Bank policies</li> </ul>	Public consultation meetings	Zenica Upon Project approval by the World Bank	<ul style="list-style-type: none"> <li>PIU/FMERI, Zenica BCM</li> </ul>
All the stakeholders	<ul style="list-style-type: none"> <li>Brief reports on project progress</li> <li>Summaries of stakeholder engagement activities</li> </ul>	<ul style="list-style-type: none"> <li>PIU/FMERI and local self-governance units websites</li> </ul>	Quarterly	<ul style="list-style-type: none"> <li>PIU/FMERI</li> <li>Cantonal and local self-governance units responsible services</li> </ul>
	<ul style="list-style-type: none"> <li>Project announcements (timing of project activities and related information)</li> <li>Invitations to public consultations</li> </ul>	<ul style="list-style-type: none"> <li>PIU/FMERI and local self-governance units websites</li> <li>Announcements via various media and press releases</li> </ul>	Regularly in line with the Project schedule	<ul style="list-style-type: none"> <li>PIU/FMERI</li> <li>Cantonal and local self-governance units' responsible services</li> </ul>
<b>Equipment Retrieval Project Implementation</b>				
<ul style="list-style-type: none"> <li>Coal mine workers</li> <li>Local communities</li> <li>Vulnerable individuals/households</li> <li>Local NVO/CSO</li> <li>Academic community/Universities</li> <li>FBiH Government and Cantonal Government representatives</li> <li>Zenica-Doboj Canton municipalities</li> </ul>	<ul style="list-style-type: none"> <li>Zenica Mine Preparatory Works Plan (for Raspotocje closure)</li> <li>Information on Grievance Redress Mechanism (GRM) process (including information on local grievance submission channels)</li> </ul>	<ul style="list-style-type: none"> <li>Public and separate meetings</li> <li>Disclosure at PIU/FMERI and Cantonal Government and local self-governance units' websites</li> <li>Disclosure via various media and press release</li> <li>Coverage by local radio and TV stations</li> <li>Public display of hard copy</li> </ul>	Upon draft document finalization	<ul style="list-style-type: none"> <li>Elektroprivreda BiH</li> <li>FBiH Government</li> <li>PIU/FMERI</li> <li>Cantonal and local self-governance units' responsible services</li> <li>Zenica BCM</li> </ul>

Target stakeholders	Information/documents to be disclosed	Disclosure channel	Timing/ Frequency	Responsibilities
		<p>documents in the envisaged public places in the affected local communities</p> <ul style="list-style-type: none"> <li>Information boards/info-desks of local self-governance units/ local communities in the sub-project locations</li> <li>Leaflet with GRM information</li> </ul>		
<ul style="list-style-type: none"> <li>Zenica BCM workers to be engaged in Raspotocje closure preparation activities</li> </ul>	<ul style="list-style-type: none"> <li>E&amp;S principles, risks, and mitigation measures</li> <li>Sensibilization on inclusion/exclusion issues, labor force issues, as well as gender based violence issues</li> <li>Workers GRM process</li> <li>Occupational health and safety measures, risk during civil works, safety measures related to waste management and hazardous material management, Code of Conduct</li> </ul>	Training	Before the activities start	<ul style="list-style-type: none"> <li>PIU/FMERI, RMU Zenica</li> </ul>
<p>OIPs:</p> <ul style="list-style-type: none"> <li>Media (TV, radio, electronic)</li> </ul>	<ul style="list-style-type: none"> <li>Project announcements (timing of project activities and related information)</li> <li>Invitations to public consultations</li> <li>Information on planned meetings</li> <li>Other relevant project information, as appropriate</li> </ul>	<ul style="list-style-type: none"> <li>Official correspondence (e-mail/ Fax/ post)</li> </ul>	Regularly in line with project schedule	<ul style="list-style-type: none"> <li>PIU/FMERI, Zenica BCM</li> </ul>

### **16.1. Responsibility of Stakeholder Engagement Plan Implementation**

Zenica BCM shall be responsible of implementation of Stakeholder Engagement Plan for preparation works related to Raspotocje underground mine closure. More specifically “Zenica” BCM Ltd. Zenica Technical Sector shall be responsible.

FMERI shall be responsible to report to the World Bank on stakeholder engagement activities implementation.

# ANNEX 1: Grievance Form

Reference number:	
Full name <i>(optional)</i>	
Contact information <i>(optional)</i>  <i>Please mark how you wish to be contacted (mail, telephone, e-mail).</i>	<input type="checkbox"/> By post: Please provide mailing address: _____ _____ _____ <input type="checkbox"/> By telephone: _____ <input type="checkbox"/> By e-mail: _____ <input type="checkbox"/> On website
Preferred language of communication	<input type="checkbox"/> Bosnian/Croatian/Serbian <input type="checkbox"/> English (if possible) <input type="checkbox"/> Other _____
Description of incident for grievance	What happened? Where did it happen? Who did it happen to? What is the result of the problem?
Date of incident / grievance	
	<input type="checkbox"/> One-time incident/grievance (date _____) <input type="checkbox"/> Happened more than once (how many times? _____) <input type="checkbox"/> On-going (currently experiencing problem)
What would you like to see happen?	

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

Date: \_\_\_\_\_

Please return this form to:

Attn: LORZ RMU,,Zenica“ d.o.o Zenica Address: Stjepana Radića 2, 72000 Phone: +387603196974 Faks: 032401000 E-mail: rmuzenica.zalbe@outlook.com Web:xxxxx
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## ANNEX 2: Worker's Grievance Form

Reference number:	
Full name <i>(optional)</i>	
Contact information <i>(optional)</i>  <i>Please mark how you wish to be contacted (mail, telephone, e-mail).</i>	<input type="checkbox"/> By post: Please provide mailing address: _____ _____ _____ <input type="checkbox"/> By telephone: _____ <input type="checkbox"/> By e-mail: _____ <input type="checkbox"/> On website
Preferred language of communication	<input type="checkbox"/> Bosnian/Croatian/Serbian <input type="checkbox"/> English (if possible) <input type="checkbox"/> Other _____
Description of incident for grievance	What happened? Where did it happen? Who did it happen to? What is the result of the problem?
Date of incident / grievance	
	<input type="checkbox"/> One-time incident/grievance (date _____) <input type="checkbox"/> Happened more than once (how many times? _____) <input type="checkbox"/> On-going (currently experiencing problem)
What would you like to see happen?	

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

Date: \_\_\_\_\_



## ANNEX 2: Grievance Mechanism under Bosnia and Herzegovina Legislation

The mechanism elaborated below, provided by BiH and FBiH legislation are considered minimum standards which have to be achieved when addressing work related concerns and perceived harassment.

### **Laws Governing Civil Service at BiH and FBiH Level and BiH Institutions Labor Law**

For **civil servants** of Bosnia and Herzegovina and the Federation of BiH, Grievance Committees to review workers complaints already exist. These committees have been established based on laws governing civil service, adopted both at Bosnia and Herzegovina and Federation of Bosnia and Herzegovina level.

*At Bosnia and Herzegovina state level, state Grievance Committee* has been established as permanent body of Bosnia and Herzegovina Council of Ministers. It was established by the Decision on Establishment of the Committee made by Bosnia and Herzegovina Council of Ministers (“Bosnia and Herzegovina Official Gazette” No. 16/02 and 1/04). Responsibilities of the Committee are prescribed by the *Law on Civil Service in BiH Institutions*.<sup>52</sup> Pursuant to the Article 63 of the Law, the Committee is responsible to review all final decisions, actions taken or missed to be taken by BiH Institutions and/or Civil Service Agency, related to employment status of civil servants and grievances of applicants related to hiring procedure, and it is also responsible of second-instance disciplinary procedure against civil servants to protect legal interest of civil servants, applicants for civil servants and BiH Institutions, pursuant to the Rulebook on Disciplinary Accountability of Civil Servants in BiH Institutions.<sup>53</sup>

*BiH Institutions Labor Law* governs labor related issues of employees of Bosnia and Herzegovina Institutions and their bodies, who are not civil servants and who are explicitly excluded from the Law on Civil Service in Bosnia and Herzegovina Institutions, as well as labor related issues of employees working in Bosnia and Herzegovina level public enterprises, associations and foundations, legal entities established by Bosnia and Herzegovina Institutions, inter-Entity corporations and other institutions performing additional responsibilities of Bosnia and Herzegovina, unless otherwise provided by other law. This Law prescribes that labor-related rights, obligations and responsibilities shall be decided upon by employer based on this one and other laws, collective bargaining agreement and by-laws, unless law regulated otherwise. The Articles 83 and 84 of the Law prescribe that an employee who believe that the employer violates any of his/her labor-related right, can request from the employer to enable him/her to enjoy such right, and the employer shall be obliged to address it within 30 days. Employee can also submit suit to Bosnia and Herzegovina court due to violation of labor-related rights, as well as in

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<sup>52</sup>The Law on Civil Service in Bosnia and Herzegovina Institutions („BiH Official Gazette“, No. 12/2002, 19/2002, 8/2003, 35/2003, 4/2004, 17/2004, 26/2004, 37/2004, 48/2005, 2/2006, 43/2009, 8/2010, 40/2012 and 93/2017);

<sup>53</sup>(„Bosnia and Herzegovina Official Gazette“ No. 20/03 and 94/10);

case the employer failed to address the complaint within the prescribed timeline. Parties to the dispute may agree to refer the labor dispute to arbitration.

In the Federation of BiH, *Civil Service Grievance Committee* is an independent body which carries out activities defined by the Federation of BiH Civil Service Law.<sup>54</sup> The Committee is responsible of addressing all appeals against decisions made by civil service managers, appeals against disciplinary committee decisions and appeals against decisions made by FBiH Civil Service Agency Director. Pursuant to the Operational Procedures,<sup>55</sup> appeals can be submitted directly or by postal mail to the authority which decision is being challenged (first instance). First instance authority shall review whether the appeal is allowed and timely submitted by the authorized person. Within eight days upon receipt, the first instance authority shall send to the Grievance Committee the case file with included all documents related to the case. Grievance Committee shall make decision within 60 days upon receipt of the appeal and the file related to the first instance decision.

### **Discrimination/Bosnia and Herzegovina Human Rights Ombudsman**

*Anti-Discrimination Law*<sup>56</sup> in BiH, covering both groups, direct workers and contracted workers, provides clear procedures which shall be followed in any case of discrimination, unjust treatment or concerns related to non-compliance with the Law. This Law is applicable to all public authorities at the State, Entity, Cantonal and Brcko District of Bosnia and Herzegovina authorities, municipal institutions and bodies, including legal entities with public authority, as well as legal entities and natural persons' conduct in the areas envisaged by the Article 6 of the Law. Some of these areas include: employment, work and working conditions, remuneration, promotion and firing; education, science and sport; social protection; training, including onboarding and continuous professional development, any type and level of technical skills enhancement, advanced skills enhancement, additional training and retraining, including internship and apprenticeship; membership of professional organizations, including membership of workers or employers organizations or any other organization with members of certain occupation; participation in such organization and benefits provided by such organizations; and others. Forms of discrimination are regulated by the Article 3-5 of the Law. Anti-discrimination Law regulates *procedures before Bosnia and Herzegovina Human Rights Ombudsman, administrative procedure and court procedure*.

*BiH Ombudsman* has a broad mandate and can be approached by any natural person or an institution with legitimate interests. In terms of discrimination, it is central institution responsible of anti-discrimination.<sup>57</sup> Within its responsibilities defined by the law, BiH

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<sup>54</sup>Federation of Bosnia and Herzegovina Civil Service Law („BiH Official Gazette“, No. 29/2003, 23/2004, 39/2004, 54/2004, 67/2005, 8/2006, 77/2006 – Constitutional Court Decision, 34/2010 – Constitutional Court DecisionS, 45/2010 – other law, 4/2012, 99/2015 i 9/2017 – Constitutional Court Decision);

<sup>55</sup>„FBiH Official Gazette“ No. 101/12;

<sup>56</sup>„BiH Official Gazette“, No. 59/09 i 66/16;

<sup>57</sup>*Discrimination*, pursuant to this Law, is any different treatment, including any exclusion, restriction or preferential treatment based on actual or assumed grounds, of any person or a group of persons, and people related to them via

Ombudsman accepts individual and group grievances related to discrimination, and in case of court procedures supports persons and groups who complained about discrimination, reviews individual complaints before court proceeding is launched, collects and analyses statistics on discrimination, submits annual reports, and as necessary, submits special reports on cases of discrimination in relevant authorities, informs general public on incidences of discrimination and conducts researches in the area of discrimination. According to annual reports on discrimination in Bosnia and Herzegovina, it was specified that majority of the received grievances was on labor-related discrimination. Ombudsman's responsibility, which in particular case may contribute to anti-discrimination, is to propose mediation procedure pursuant to the provision of the Mediation Law.<sup>58</sup>

### **FBiH Labor Law Anti-Discrimination provisions**

Anti-discrimination provisions are contained in the Articles 10-13 of the *FBiH Labor Law*. In case of discrimination, worker, as well as job applicant, may request protection from the employer within 15 days upon becoming aware of the discrimination. Unless the employer accommodates such request within the 15 days after its submission, worker can submit appeal to the relevant court within the following 30 days. Worker, trade union, employer and workers' council can submit request to the labor inspector to perform inspection surveillance, as regulated by the Article 162 of the Law.

### **Harassment at Work**

The Article 9 of *FBiH Labor Law* forbids any form of harassment or sexual harassment, gender-based violence, as well as systematic harassment at work or related to work (mobbing) by the employer or persons employed by the employer, of a worker or job applicant. The Article 13 of the Law provides the right to initiate criminal or litigation proceedings in case of discrimination, harassment, sexual harassment, gender-based violence and mobbing at work or related to work, while neither provision of this Law shall be interpreted as restriction or limitation of the right to initiate criminal or civil proceedings.

### **Amicable Dispute Resolution**

*FBiH Law on Amicable Resolution of Disputes*<sup>59</sup> enables individual and collective labor-related complaints and claims to be addressed via mediation and arbitration and amicable agreement between the involved parties, without going to court. The Law underscores voluntary principle as the main principle, since the parties to the dispute decide on amicable resolution of the dispute, as well as on choice of mediator and arbitrator. Individual and collective disputes amicable resolution process is initiated by submitting

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family or other relations, because of their race, skin color, language, religion, ethnic background, disability, age, nationality, social background, connections to ethnic minority, political or any other affiliation, material status, membership trade union or other association, education, social status and gender, sexual orientation, gender, sexual characteristic or any other circumstance, with the objective or consequence of preventing or threatening to prevent any persons to get, enjoy or obtain equal rights and freedoms in all aspects of life.

<sup>58</sup>„Bosnia and Herzegovina Official Gazette”, No. 37/04.

<sup>59</sup>„FBiH Official Gazette”, No. 49/21;

proposal to the *Federation Ministry of Labor and Social Policy*. Amicable resolution of grievance is regulated by the Article 11-23 of the Law.

# ANNEX 3: Code of Conduct Template

## CODE OF CONDUCT FOR PROJECT WORKERS

We are the Contractor, *[enter Contractor Name]*. We signed the Contract with *[enter Employer Name]* for *[enter description of Works]*. These Works will be performed *[enter name of the construction site and other sites where the works will be performed]*. Our Contract requires us to implement mitigation measures related to environmental and social risks of the Works, including sexual exploitation and abuse and sexual harassment risks.

This Code of Conduct is a part of our mitigation measures of the environmental and social risks related to the Works. It shall be applied to all our staff, employees and other workers at the construction site and other sites where the Works are performed. This also includes staff of any sub-contractor or any other persons helping us during execution of work. All such persons shall be considered “**Contractor’s workers**”, and shall be subject to this Code of Conduct.

This Code of Conduct identifies conduct which we require from all Contractor’s workers.

Our workplace is an environment in which unsafe, offensive, abusive or violent behavior shall not be tolerated and in which all people should feel comfortable to raise issues or concerns without any fear of retribution.

## REQUIRED CONDUCT

Contractor’s workers shall:

1. Carry out their duties competently and diligently;
2. Comply with this Code of Conducts and with all applicable laws, regulations and other requirements, including requirements related to health and safety and wellbeing of Contractor’s workers and any other person;
3. Maintain safe working environment, including:
  - a. Ensure that all work posts, machinery, equipment and processes under control by each worker are safe and free of health hazards;
  - b. Use necessary personal protection equipment;
  - c. Implement adequate measures related to chemical, physical and biological material and agents; and
  - d. Comply with applicable operating procedures in case of emergency.
4. Report situations which they consider not safe or healthy and leave work post in case of reasonable doubt that it presents immediate hazard for their life and health;
5. Treat other people respectfully and not discriminate certain groups such as women, people with disability, migrant workers or children;

6. Do not undertake any form of sexual harassment, including undesired sexual contacts, requests for sexual contacts or any other undesired verbal or physical behavior of sexual nature with other staff of the Contractor or the Employer;
7. Do not undertake sexual exploitation, which would include any actual or attempted abuse of vulnerable position, different level of power or trust, for sexual benefits, including, without any limitation to, financial, social or political benefit from sexual exploitation of the other person. Under the World Bank financed projects/operations sexual exploitation is considered to be happening when access to goods, works, consultancy or non-consultancy services financed by the Bank, or benefits arising from them, is abused to get sexual services in exchange;
8. Do not take part in rape, which means physically violent or in any other way violent penetration – even only partial – into the vagina, anus or mouth by penis or other part of the body. Rape includes also rape between married couples and anal rape/sodomy. An attempt to do so is considered as an attempted rape. Rape by two or more perpetrators is considered as group rape;
9. Do not participate in sexual attack, which includes any type of non-consensual sexual contact, which does not result with or include penetration. The examples include: attempted rape, as well as undesired kissing, cuddling or genitals and bottom touching; do not undertake any form of sexual activity with person below 18, unless already married to him/her;
10. Complete relevant training courses which will be provided on environmental and social aspects of the Contract, including health and safety issues, sexual exploitation and sexual abuse;
11. Report violation of this Code of Conduct; and
12. Do not undertake retribution against any person who reports violation of this Code of Conduct, either to us or the Employer or who accesses [Project Grievance [Redress] Mechanisms].

## **CONCERNES REPORTING**

If any person notices any conduct which may present violation of this Code of Conduct or which concerns him/her in any other way, this issue must be raised immediately. This can be done in one of the following ways:

1. Contact [*enter name of Contractor's social specialist with relevant experience in addressing gender-based violence, or if such specialist is not required under the Contract, other person appointed by the Contractor to deal with these issues*] in written form on the following address [ ] or by telephone on [ ] or in person at [ ]; or
2. Call the following number [ ] to get access to the Contractor's hot line (*if any*) and leave a message.

Identity of the person shall remain confidential, unless allegations reporting is prescribed by national legislation. Complaints and charges may be reported also anonymously and they shall be considered in appropriate manner. We take seriously all the reports of potential inappropriate conduct and we shall investigate them and take adequate measures. We shall make reference to service providers who can help in supporting the victim of the alleged incident, as necessary.

There shall be no retribution against any person who in good faith raises concern about any conduct forbidden by this Code of Conduct. Such retribution would present violation of this Code of Conduct.

### **CODE OF CONDUCT VIOLATION CONSEQUENCES**

Any violation of this Code of Conduct by the Contractor's workers may result with serious consequences, all the way to termination and potential submission of case to responsible authorities.

ON BEHALF OF THE CONTRACTOR'S WORKERS:

I have received a copy of this Code of Conduct written into the language I understand. I understand that if I have any question on this Code of Conduct I can contact [*enter name of Contractor's social specialist with relevant experience in addressing gender-based violence*] and request clarification.

Contractor's worker name: [enter name]

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

Date: (day, month, year): \_\_\_\_\_

Co-signature of the Contractor's authorized person:

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

Date: (day, month, year): \_\_\_\_\_