**22. Checklist for safe and attractive mining workplaces**

While ensuring and creating safe and attractive mining workplaces is important, it’s understandably not a simple task. There are many aspects, issues and questions that must be considered and addressed in order to achieve that goal, enough that it would be very difficult to try and address them all at once. Making wider, simpler analyses on the current state of a mining workplace, however, can still be useful. Identifying what areas of a mining workplace that can be changed to improve safety and attractiveness should be done to allow for early analysis and planning of actions. It’s possible, however, that people become blind to the faults and needs for improvement in their working environment. This checklist aims to help highlight potential areas of improvement in a mining workplace that could make it a safer and more attractive workplace, without presenting in-depth solutions that may limit the decision-making process.

The checklist can be freely downloaded from Lägg på bibliotekets server

**Key categories for documentation**

* Name and/or location of the mine:

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| --- |
|  |

* Date of investigation:

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| --- |
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**Safety and risks: General questions**

* Are there systems for documentation of incidents, risks and accidents available?

Yes  No

* + Are the employees motivated and encouraged to document and report incidents, risks and accidents?

Yes  No

* + Are reports anonymous?

Yes  No

* + Are managers and the organisation accepting of and welcome these reports?

Yes  No

* + - *I.e. taking suggestions and warnings to heart, not getting defensive and/or accusatory towards the one reporting*
* Are reports of incidents, risks and accidents taken seriously by management?
  + Are reports of incidents and risks investigated?

Yes  No

* + Are reports of accidents followed up?

Yes  No

* Are contractors motivated and encouraged to document and report incidents, risks and accidents to the organisation?

Yes  No

* + Are actions taken to address dangers and risks in contractor workplaces?

Yes  No

* How are hazards most commonly handled?

1. Hazards are eliminated by replacing them in the planning stages.

2. Hazards are isolated so that it can’t reach individuals.

3. Change the way people work to reduce the effects and/or risks of hazards.

4. Hazards are encapsulated and limited through enclosures and physical protection.

5. People are isolated from the hazard zone through enclosures and physical protection around the individuals.

6. Risks are reduced through information and training on safe handling of and work with the hazard.

7. The effects of hazards on workers are mitigated with personal protective equipment.

* Are efforts being taken to move towards the higher levels of hazard control?

Yes  No

* Is systematic safety work management practiced?

Yes  No

* + *I.e. systematic review of reports, analysis of risks and accidents, maintaining good safety practices etc.*

**Safety and risks: Mining-specific questions**

* Are remote controlled vehicles used in the mine?

Yes  No

* Are there work tasks where the miners work alone?

Yes  No

* Do the employees take training courses in mine safety?

Yes  No

* + Is this training mandatory?

Yes  No

* + Is the training recurring?

Yes  No

* + Do the employees receive additional training if/when changes are made in the workplace?

Yes  No

* Are the presences of the people in the mine registered?

Yes  No

* + *I.e. checking in/out when entering/exiting the mine in case of an accident/if the mine needs evacuating*
* Are employees educated in evacuation procedures in case of an accident?

Yes  No

* Are contractors educated in evacuation procedures in case of an accident?

Yes  No

* Who is evacuated during blasting?

Everyone in the mine

People near the blasting zone

* Are there procedures for searching for duds after blasting?

Yes  No

**Safety and risks: Equipment and vehicles**

* Is standard safety equipment available to the miners?

Helmet  Hi-vis clothing  Ear protection

Eye protection  Work gloves  Work boots

Breathing mask  Lamp/Light

* Do all employees wear/utilize the safety equipment?

Yes  No

* Are the employees motivated/encouraged to utilize the safety equipment?

Yes  No

* Do all contractors wear/utilize the safety equipment?

Yes  No

* Are contractors motivated/encouraged to utilize the safety equipment?

Yes  No

* Do the employees have ways to remotely communicate with others while working in the mine?

Yes  No

* Are the employees’ locations tracked?

Yes  No

* + Is it the equipment and the vehicles or the employees themselves that are tracked?

Equipment & vehicles  Employees

Both  Not applicable

* + Are contractors tracked?

Yes  No

* + Is this tracking restricted to inside the mine?

Yes  No

* + Is tracking restricted to be used during active work?

Yes  No

* + - *I.e. tracking isn’t used during breaks, office work etc.*
* Are the employees’ health conditions monitored?

Yes  No

* Are there regular safety test performed on the equipment and vehicles?

Yes  No

* + I.e. break tests, light tests etc.
* Are mining vehicles capable of protecting from rockfalls?

Yes  No

* Are there safety routines and procedures for all work activities?

Yes  No

* + Are these routines followed by all employees?

Yes  No

* + Are these routines followed by all contractors?

Yes  No

* + How are employees motivated to follow safety routines?

Training

Signs and information

Reminders from others

Not applicable

* Is the visibility in mining vehicles improved/compensated for in some way?

Cameras

Proximity sensors

Mirrors

Other

No

**Ergonomics**

* Are mining vehicle interfaces designed to avoid uncomfortable working positions?

Yes  No

* Can the equipment and tools generally be adjusted according to the users’ needs?

Yes  No

* + Are the seats and chairs adjustable?

Adjustable seat height

Adjustable back support

Adjustable arm rest height

* Are the mining workplaces properly illuminated?

Yes  No

* Are sufficient efforts taken to minimize employee exposure to vibrations?

Yes  No

* Are sufficient efforts taken to minimize employee exposure to high noise and sound levels?

Yes  No

* + *The limit to safe average levels of exposure is 85 dB over 8 hours, anything higher and people may risk hearing damage*
* Are sufficient efforts taken to provide clean air in the mine workplaces?

Yes  No

* + *The limit to safe levels of diesel pollution is at 400 µm/m3 [concentration]*
* Are sufficient efforts taken to minimize employee exposure to potentially dangerous chemicals?

Yes  No

* Are sufficient efforts taken to minimize employee exposure to dust?

Yes  No

* + *The limit to safe dust levels is 0,1 mg/m3 of air.*

**Working hours**

* How long are work shifts generally?

<8 hours  8 hours  10 hours  >10 hours

* Are there employees that often work shifts longer than 8 hours?

Yes  No

* How common is overtime work?

Once or twice per month

Once per week

2-3 shifts per week

>3 shifts per week

* Do employees work consistent shift times?

Yes  No

* + *I.e. would an employee consistently work evening shifts during a week, or would they vary between day/evening/night shifts in the same week?*
* Are night shifts restricted to a maximum of 8 hours per 24 hours?

Yes  No   
 Not applicable (No night shifts)

* + *This is a restriction based on European parliament work directives.*

**Employment-/working conditions**

* What are employee wages based upon?

Piece rate wage

Hourly wage

Fixed wage

* Does the work pace offer variation between intensive and calm periods?

Yes  No

* + *I.e. changing between more and less intense work tasks, or having recurrent breaks.*
* Is there variation between work tasks?

Yes  No

* + How often do/can employees swap between work tasks?

More often than every hour

Every hour

Every two hours

Every four hours

Every shift

More infrequent than every shift

* + Can employees choose whether to change work task or not?

Yes  No

* Are there opportunities for variation between practical and mental work tasks?

Yes  No

* Are miners involved in performing maintenance work tasks?

Yes  No

**Employee involvement and learning**

* Are mine workers included in the design and implementation process for changes, or are they otherwise involved in making changes?

Yes  No

* Are workers properly recognised for performing well in their work?

Yes  No

* Are the different working roles structured in a hierarchy?

Yes  No

* + *I.e. does every/most employees start with a specific role and advance to others depending on time worked/skill?*
* Can the employees take courses to develop their skills and their profession?

Yes  No

* Are employees given opportunities to improvise and apply their skills in their work?

Yes  No

* + *I.e. take courses in mine safety to become a safety representative, or become certified to operate different equipment.*
* Does employee training involve senior employees?

Yes  No

* + *I.e. do younger/newer miners learn from older/more senior miners?*
* Do employees work with one/a few main task(s) or does their work involve changing work roles?

Main task/role  Changing tasks/roles

* + - *I.e. would an employee only work as a “driller” or will they on some days work with bolting or material handling?*
  + If employees have a main role/main tasks, are they trained in other tasks and roles?

Yes  No

* + - *I.e. do they possess general competence of the work tasks in their working environment?*
* At what organisational level is the planning level?

Organisational

Department

Work groups

Individual

**Social aspects**

* Is there proper trust, communication and cooperation between employees and management?

Yes  No

* Are employees given opportunities to socialise with their co-workers?

Yes  No

* Does the mine interact with and support the local community?

Yes  No

* + In what way?

Public transportation

Housing

Infrastructure

Other: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Social aspects: Gender equality**

* Have there been issues or problems exclusively affecting people of one gender?

Yes  No

* + Have these issues been addressed?

Yes  No

* Have there been cases of gender-based harassment?

Yes  No

* Do the workplace facilities accommodate both men and women?

Yes  No

* + *I.e. are there bathrooms and changing rooms for both?*
* Are there certain work tasks that are considered gendered?

Yes  No

* + Give examples of gendered work tasks:

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* + *I.e. are some work tasks considered a “man’s job” and others are “women’s’ work”?*

**Environmental aspects**

* Are efforts made to reduce emissions?

Yes  No

* + Give examples of efforts made to reduce emissions:

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* Are efforts made to minimize the effect on the local environment?

Yes  No

* + Give examples of efforts made to minimize effects on the local environment:

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