URANIUM GIS OPERATION PROJECT OF THE *"ADRAR EMOLES 3"*
RESEARCH PERMIT (AGADEZ REGION, NIGER)

HYGIENE, SAFETY, HEALTH PLAN

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LIST OF ACRONYMS AND ABBREVIATIONS

AT: Accidents at work

CNSS: National Social Security Fund

PPE: Collective Protection Equipment

PPE: Personal Protective Equipment

GAC: Global Atomic Corporation

HSE: Health, Safety, Environment

MG: Complaints Management Mechanism

PHSS: Health, Safety and Environment Plan

PVC: Polyvinyl chloride

1. INTRODUCTION

The implementation of the Adrar Emoles 3 Exploration Permit will generate potential risks to the human and biophysical environment in the area concerned.

In order to ensure that these identified risks and impacts are taken into account, this Health, Safety and Environment Management Plan has been drawn up.

The general objective is to define all the conditions necessary to ensure the safe implementation of the project.

Specifically, this plan will:

- Identify project risks;
- Plan the measures to be put in place to control the risks and situations arising from the project activities;
- Inform, raise awareness and train staff on the risks associated with the work and the need to use protective equipment;
- To protect the health and safety of workers and surrounding populations in the context of project activities;
- Define and describe the responsibilities and obligations of each stakeholder with regard to health, safety and security during the execution of the project;
- Define and describe the responsibilities and obligations of each stakeholder for engagement with local communities during project implementation;
- Put in place the rules for planning and coordinating work safely;
- Implement actions in case of accidents and incidents.

The Health, Safety and Security objectives can be summarised as follows:

- To achieve the principle of "zero fatalities", which implies the rapid elimination of accident factors through the analysis of causes;
- Minimise the time staff are unfit for work, due to work-related and non-work-related injuries and illnesses, by providing an adequate medical service;
- Promote compliance with the safety policy on and off the job;
- Improve working conditions for staff;
- Ensuring good health;
- Ensuring the preservation of assets.

2. BRIEF DESCRIPTION OF THE PROJECT

The Canadian company Global Atomic Corporation, which has been conducting mining research in Niger since 2007, is considering the exploitation of the uranium deposit it has discovered in the "Adrar Emoles 3" research permit.

The area of the exploitation permit, which is the subject of this project, covers an area of 25.01 km² and is located in the rural commune of Tchirozérine (Department of Tchirozérine, Agadez Region).

The geographical coordinates (Latitude/Longitude, ADINDAN - Clarke 1880) of the vertices within the licence area are given in Table 1 below.

Table 1 Coordinates of the vertices of the exploitation perimeter

Point	Longitude	Latitude
A	7° 39' 59, 8''	17° 50' 08''
B	7° 42' 50''	17° 50' 08''
C	7° 42' 50''	17° 47' 26''
D	7° 39' 59, 8''	17° 47' 26''

2.1. Project objectives

The overall objective of the project is to develop the uranium deposit discovered in the "Adrar Emoles 3" exploration permit.

The specific objectives are:

- Construct and install the permanent surface infrastructure (base camp, buildings including administrative and technical blocks, sanitary installations, water and electricity networks, ponds, various workshops and garages, shops and warehouses for various products and equipment, etc.);
- Construct the underground mine (access ramp (tunnel), galleries, shafts/ventilation holes) and all associated facilities (garage, workshops, crushing plant, various cables, signalling, instructions, etc.);
- Build the ore processing plant and the various support services (administrative and technical blocks, workshops, garage, warehouses, various networks, contact for the production of sulphuric acid, hydraulic works, sluices, various input storage areas, etc.);
- Processing the ore to uranate, smelting it and transporting it to potential markets;
- Create temporary and permanent jobs and contribute to the improvement of people's living conditions;
- To contribute significantly to the improvement of tax revenues at local, regional and national levels as well as to socio-economic development through investments in various sectors;
- Redevelop all the sites operated at the closure of the project.

2.2. Expected results

The main results expected from the implementation of the project are:

- the permanent surface infrastructure (base camp, administrative and technical buildings, sanitary facilities, water and electricity networks, ponds, various

workshops and garages, shops and warehouses for various products and equipment, waste rock and tailings disposal areas, etc.) are built and/or installed;

- the underground mine (access ramp (tunnel), galleries, shafts/ventilation holes) and all associated facilities (garage, workshops, crushing plant, various cables, signalling, instructions, etc.) are constructed and/or installed;
- the ore processing plant and the various support services (administrative and technical blocks, workshops, garage, warehouse, various networks, contact for the production of sulphuric acid, hydraulic works, slurry pits, slurry pits, various storage areas for inputs, etc.) are built;
- the ore extracted is processed, the uranate obtained is smelted and transported to potential outlets;
- temporary and permanent jobs are created and the living conditions of the people in the area are improved;
- a significant contribution to the improvement of tax revenues at local, regional and national levels as well as to socio-economic development through investments in various sectors is made;
- all operated sites are redeveloped at project closure.

2.3. Description of the deposit

All known uranium deposits in Niger are located in sandstones and conglomerates of the Tim Mersoi basin. They are all classified as belonging to the tabular sedimentary types.

Sandstone-hosted uranium deposits are marked by epigenetic concentrations of uranium in fluvial/lacustrine or deltaic sandstones deposited in fluvial continental environments frequently in transition zones from higher to lower flow regimes, such as along paleo ridges or domes. Roll-front deposits contain impermeable shales or mudstones overlying or underlying or separating the mineralised sandstones and ensuring that fluids move along the sandstone bodies.

In sandstone-type deposits, uranium is usually precipitated by oxidising fluids from reducing agents such as plant material, amorphous humate, sulphides, iron minerals and hydrocarbons. The oxidation and reduction facies display typical colours and can assist in the selection of exploration targets. Fluid migration and deposition of uranium leaves a colour change from red hematite (oxidised) to grey-green (reduced). The main uranium minerals in most sandstone-type deposits are uraninite, pitchblende, coffinite

In general, it can be noted from north to south in eastern Niger that uranium mineralisation appears to occur in increasingly younger strata. This is most likely a combination of a change in source zones and uranium supply over time, and the fact that in the south the younger strata are exposed at the surface, necessitating increasingly deeper drilling in the southern areas (e.g. Carboniferous - older targets).

The best grade and tonnage of uranium in the Adrar Emoles 3 deposit is found in the sandstone of the Tchirezrine 2 formation, the same formation that also contains the large ORANO Imouraren deposit, located about 40 km northwest of Adrar Emoles 3.

In contrast to the carboniferous mineralisation in the Arlit area, the uranium in the Tchirezrine 2 formation occurs mainly as hexavalent uranium minerals in an oxidised environment. Uranophane is the most abundant mineral. It can form small aggregates or appear as a continuous coating parallel to the layering. Uranophane is commonly associated with chrysocolla and in small quantities also with boltwoodite. Metatyuyamunite has also been found. Coffinite exists in the residual reduced areas, as well as chalcocite and native copper. Pitchblende was observed in small quantities. This mineralisation occurs in two main forms: interstitial in the sandstones, and massive sulphide mineralisation in the microcracks with galena and blende.

2.4. Project activities

The main activities that will be implemented within the framework of the "Adrar Emoles 3" exploration permit are given in Table 2 below.

Table 2 Project activities

Project phases	Activities
Development (Preparation and construction)	- Construction/development of access roads/tracks - Site preparation (stripping or removal of overburden) for the construction of temporary facilities - Installation of temporary infrastructure and equipment that will contribute to the construction of the project (living quarters for the personnel of the construction companies, material base, etc.) - Borrowing and quarrying (sand, gravel, laterite, etc.) - Preparing the right of way for the facilities - Construction/installation of surface structures and equipment (employee living quarters, administrative and technical blocks, plant and support services including machine maintenance and reconditioning workshops/garages, boiler rooms, pneumatics, etc., input warehouses, contact workshop for the production of sulphuric acid, ponds, dykes, boreholes, tailings facility, waste treatment facilities, electrical power generation system, etc.) - Construction of the underground mine (ramps, galleries, ventilation holes) and its support services at the bottom (garage, workshops, crushing plant, various networks, signposts and instructions, etc.).
Operation	- Extraction of ore from the underground mine (drilling, blasting, transport of ore to the primary crusher, conveying to daylight through a conveyor belt) - Storage of inputs (chemicals including sulphur, hydrocarbon products, etc.) - Operation of workshops (maintenance of machinery and equipment, reconditioning of machinery, manufacture of spare parts, etc.) - Ore storage, crushing and conveying to the plant - Plant level ore processing (crushing, grinding and classification, etching, liquid/solid separation, clarification, precipitation, purification, uranate drying/calcination and smelting) - Storage of tailings from ore processing

Project phases	Activities
	- Loading and shipping of uranate - Periodic maintenance of the plant
Closing	- Dismantling of facilities - Site clean-up - Site redevelopment/restoration

2.5. Main project infrastructure

The main infrastructure to be built under the project :

- the living quarters: staff housing, sanitary, social, cultural, educational, electrical and drinking water infrastructures, roads, etc.
- the mining area: mine access roads, overburden, ore heaps, explosives storage, mechanical workshops, storage shops, truck loading facilities and other related infrastructure such as internal roads, buildings (administration, changing rooms, etc.) and services.
- the ore processing plant, the contact workshop for the production of sulphuric acid and the solvent extraction process for uranium.
- transport tracks, service corridors, overhead power lines and water pipes.
- Tailings storage facilities and waste rock piles - Tailings from the mill will be stored dry in a clay-lined tailings storage facility. Mine waste rock will be disposed of in waste rock piles.

2.6. Working hours on the project site

The working hours will respect the regulations in force in Niger.

In case of derogation, a request for authorisation will be sent to the competent authority, notably the Agadez labour inspectorate.

3. LEGAL AND INSTITUTIONAL FRAMEWORK

3.1. Legal framework

3.1.1. International legal framework

The international conventions on hygiene, health and safety to which Niger has acceded and which are relevant to the project are the following (date of ratification/date of entry into force):

- C029 - Forced Labour Convention (No. 29) - Protocol of 2014 to the Forced Labour Convention, 1930 ratified on 14 May 2015;
- C087 - Freedom of Association and Protection of the Right to Organise Convention, 1948 (No. 87) (27 February 1961);
- C098 - Right to Organise and Collective Bargaining Convention, 1949 (No. 98) (23 March 1962);
- C100 - Equal Remuneration Convention, 1951 (No. 100) (9 August 1966) ;
- C105 - Abolition of Forced Labour Convention, 1957 (No. 105) (23 March 1962) ;
- C111 - Discrimination (Employment and Occupation) Convention, 1958 (No. 111) (23 March 1962) ;
- C138 - Minimum Age Convention, 1973 (No. 138)Minimum age specified: 14 years (04 December 1978) ;
- C182 - Worst Forms of Child Labour Convention, 1999 (No. 182) (23 October 2000).

3.1.2. National legal framework

The different national texts that can be activated in the framework of the project in relation to the implementation of the Health and Safety plan are the following:

- **Law 2012 - 45 of 25 September 2012 on the Labour Code in Niger.** According to Article 8, "*Companies shall use their own labour force. They may also call upon external personnel in the framework of temporary work and make their employees available to other companies. They may also use the services of a labourer*". For Article 9: *"Subject to compliance with the provisions of Articles 11, 13 and 48, employers shall directly recruit the employees they employ. They may also use the services of public or private employment agencies. Article 155: "Stress, smoking, alcoholism, drug addiction and HIV/AIDS are emerging health risks in the workplace. Every employer is obliged to inform and sensitize his workers about emerging risks and to provide psychosocial assistance. Article 156: "The employer may not, under any circumstances, require a job applicant to undergo an HIV-AIDS or sickle cell test on the occasion of his recruitment;*
- **Law No. 93-13 of 2 March 1993 establishing the Public Health Code.** This code regulates several aspects related to the management of waste and its effects on the environment. It also deals with the hygiene of industrial

installations, public roads and places, water and the natural environment. The code also regulates the management of toxic products, the protection of human health and the fight against noise;

- **Decree N° 2011-404/PRN /MH/E of 31 August 2011** determining the nomenclature of developments, installations, works and activities subject to declaration, authorisation and water use concession.

3.2. Institutional framework

The different institutions that will be involved in the implementation of the Health and Safety Plan are

- The Ministry of the Environment t and the Fight against Desertification;
- The Ministry of the Interior and Decentralisation;
- The Ministry of Employment, Labour and Social Protection;
- Global Atomic Fuels Corporation;
- Companies and service providers;

Also, civil society organisations may be involved in the project if necessary.

4. HSE RESOURCES

4.1. Organisation of the HSE function

4.1.1. Head of site

He is responsible for hygiene, health and safety at work throughout the site.

It ensures that an effective prevention strategy is in place:

- Against accidents, damage and loss of property;
- Against the risk of incidents that may occur to any person employed by the Company or victim of the consequences of its activities.

It takes disciplinary action against supervisory members who have not observed or are not observing their responsibility for health and safety.

In the event of serious or fatal accidents, he/she is responsible, in collaboration with the HSE manager, for:

- Informing the families of the injured;
- Report the accident to the CNSS;
- Ensuring the availability of care;
- Monitoring the evolution of the health status of accident victims;
- Collaborate with the treating physician to obtain a certificate to return to work, even in part-time work if necessary.

4.1.2. HSE Manager

He/she is responsible for the implementation and enforcement of the project's health and safety policy and ensures that this is communicated to the staff under his/her authority in general, and to new recruits in particular.

It ensures that all Supervisors and Operators are aware of their health and safety responsibilities and do not take unnecessary risks.

It ensures that all work to be carried out on the site presents the minimum risk to employees, the public, equipment and materials.

It guarantees care for all staff in the event of both injury and occupational illness.

It sets up an organisation with subcontractors and others to avoid any confusion of areas of competence in health, hygiene and safety.

It ensures that adequate provisions including any special requirements are made for fire prevention on all project facilities.

He/she shall collaborate with any person in charge of the work before adopting new working methods or carrying out any handling that poses serious safety or health risks.

It ensures that every accident that occurs on any site is reported in accordance with this procedure.

In addition, it is responsible for carrying out the initial investigation of any accident or incident resulting in work stoppage.

The HSE manager sets an example by following the various safety instructions.

Its tasks also include:

- Ensure that safety rules are posted throughout the site;
- Participate in the implementation of HSE policies;
- Participate in the risk analysis of the site;
- Participate in the drafting of task analyses;
- Write the HSE activity reports for the site (Non-Conformity, Compliance);
- Participate in the drafting of operating modes, procedures and HSE methodologies for the site and ensure their application;
- Advise management on the drafting of the PHSS, and ensure its implementation;
- Carry out regular field visits and checks;
- Check, control and update safety records for machinery and equipment;
- Ensure the correct use of collective protective equipment (CPE);
- Ensure the use, provision and stock management of personal protective equipment (PPE);
- Analyse work accidents and near misses and propose a corrective action plan to the site management;
- Produce and file accident, near miss and incident reports;
- Manage crises in the event of fatal accidents, and stop the site in the event of an actual or potential danger in consultation with the site manager;
- Propose sanctions for repeated failure to comply with safety rules;
- Organise awareness-raising sessions on hygiene, health and safety issues for all employees and archive the attendance lists resulting from these awareness-raising sessions (Environmental Safety Minutes);
- Manage and monitor the site's safety and environmental reception areas;
- Organise team training in the HSE field;
- Organise the management of the site infirmary and define the contents of the first aid kits in collaboration with the occupational physician;
- Ensure that the telephone numbers of doctors, nurses and ambulance staff are posted;
- Ensure that a copy of the PHSS is available at all levels of the hierarchy;
- Keep all inspection, accident/incident report forms;
- If necessary, train the various managers in the use and operation of HSE recording media.

4.1.3. Service providers and subcontractors

All subcontractors will be required to comply with Global Atomic Fuels Corporation's Health and Safety Policy.

They will sign the subcontractor membership letter before starting their activities. They will commit to the HSE requirements of the project.

They will sign the PHSS organisation note after writing: "We have read the contents and undertake to comply with the GAC PHSS in its entirety".

They will have to communicate to the management on site, all the difficulties which would block the implementation of this policy, so that solutions are quickly found.

They must ensure that the potential risks of accidents/incidents have been analysed for their work before it is carried out.

Similarly, when installing electrical equipment or machinery, they must ensure that this is done in accordance with standard safety rules.

Any substance, material or equipment brought onto the site by them which presents an explosion or fire hazard or which may seriously harm people's health must be declared for storage in accordance with the prescribed recommendations and the regulations in force.

Finally, subcontractors and service providers will be required to provide their employees with all the personal protective equipment necessary for the proper execution of the work entrusted to them. They shall ensure that their staff are trained in the use of this equipment.

4.2. Conflict resolution

It should be noted that should any conflict arise during the implementation of the project, its resolution will follow the Complaints Management Mechanism (CMM) in place.

5. RESCUE AND EVACUATION ARRANGEMENTS

Each person intervening on the project site (employee, subcontractor, service provider, accompanied visitor, control mission, etc.) must know the means and the way to call for help, the assembly points and the conduct to follow according to their skills and functions.

5.1. Alert procedure

As prevention is one of the best options for safety, the HSE manager will ensure that workers know what to do in the event of an incident or accident.

To this end, emergency preparedness for the worker should be provided by the HSE officer.

The main objective is to avoid improvisations that worsen the consequences of an accident. The aim is to show what to do and what not to do in the event of an incident or accident. To do this, it is necessary to:

- make staff aware of the risks of panic that may arise in the event of an accident;
- comment on the "Accident Calls" poster displayed in workplaces;
- indicate access to workstations to facilitate the organisation of rescue operations.

Of course, workers prepared in this way do not replace first aiders, whose special training remains indispensable.

Finally, each worker on the site should be aware of the following points depending on the undesired events.

In case:

- **Accident:** notify the safety department or follow the posted instructions;
- **Fire:** Fight the fire and notify safety personnel on site;
- **Siren:** Go to the nearest assembly point.

5.2. Assembly points

Depending on the organisation of the whole site, assembly points should be defined. Signs indicating these places should be made and placed.

5.3. Lists of first aid workers

As part of the implementation of this plan, the project must have a list of trained first aiders. This list must include the following information Names and surnames, duties and place of employment.

The HSE manager ensures that the list of first aiders on the project sites is updated in real time.

5.4. Medical equipment

5.4.1. Infirmary

In accordance with the regulations and depending on the number of employees on the site, an infirmary will be set up in accordance. Indeed, paragraph 1 of Decree No. 2017 017-682/PRN/MET/PS of 10 August 2017 on the regulatory part of the Labour Code stipulates that: *"There must be provided at least : in 1st category establishments, the permanent service of one doctor and two (2) nurses up to one thousand (1000) workers, one additional doctor for every 500 workers and one additional nurse for every 300 workers; when the establishment comprises less than one thousand (1000) workers and is located less than twenty-five (25) kilometres from an official medical centre or a centre of activity of a private doctor, it may be classified as 2nd category by decision of the Minister in charge of Labour, after the opinion of the Minister in charge of Public Health."*

This infirmary will be set up in a four-compartment container comprising: a waiting room; a consultation room equipped with furniture and medical equipment; a treatment room and a rest room.

For the purposes of the operation of this establishment, the GAC will comply with the texts in force, in particular the conditions of recruitment of care personnel in companies.

5.4.2. First aid kit

First aid kits for first aid will be provided in some of the light and heavy vehicles operating on the various project sites.

No medication is accepted in the first aid boxes, unless prescribed by the occupational physician.

The use of emergency boxes must be systematically reported to the HSE manager for replenishment.

The contents and durability of these emergency boxes will be checked regularly. If an item is found to be missing, it will be replaced as soon as possible.

5.5. Evacuation procedure

In the event that the infirmary does not have the means to receive a patient following a serious accident or a serious health problem, the HSE manager informs the site manager of the need to evacuate the patient to a health centre that will be agreed upon, particularly in Agadez.

In this case, the person in charge of the infirmary fills in an evacuation request form which will be submitted by the HSE to the site manager for approval.

5.6. Fire

The HSE manager maintains a list of officers with firefighting skills

5.6.1. Prevention and fire-fighting measures

Effective means of fire prevention and fire-fighting should be available. They should comply with national legislation and approved standards.

They should be placed within easy reach to facilitate their accessibility and use in case of emergency. They will consist of: Sandbox, Fireproof suit, ABC powder extinguisher (6 and 9 kg), Safety shower.

Fire-fighting equipment should be inspected, maintained and tested in accordance with the manufacturers' recommendations and the relevant regulations.

5.6.2. List of firefighting equipment:

A situation of the firefighting equipment distribution plan will be developed and maintained by the HSE manager.

5.6.3. Fire prevention

The best way to fight a fire is to prevent it. Fires can be prevented or their damage greatly reduced by applying storage rules and by thinking through each stage of the operation. This includes removing waste, separating flammable liquids from combustible products such as boxes of cardboard and paper, storing a limited amount of flammable products and keeping traffic areas unobstructed and clean.

Check the site and observe if there are broken electrical wires; if there is an electric motor that can generate sparks near flammable liquids; if there are bottles of flammable substances too close to the heat; if the work area is cluttered, etc. It is strictly forbidden to light fires inside the work site or to cause bush fires. Prevention measures will be posted wherever necessary on the Company's facilities.

5.6.4. Reflexes in case of fire

In case of fire:

- Protecting the area;
- Use on-site extinguishers at the base of the fire;
- Notify the emergency service and wait for instructions.

5.7. Emergency service

The emergency service will consist of the personnel listed in the table below.

Heading	Function	Name	Contact
Head of site	----------	----------	----------
HSE Manager	----------	----------	----------
Law enforcement officer	----------	----------	----------

6. HEALTH AND HYGIENE MEASURES

6.1. General health and safety rules

The general rules of health and safety are :

- Regular cleaning of the work premises and annexes;
- Sanitary facilities in a ventilated room ;
- Ventilation of rooms and sufficient lighting;
- Clean, uncluttered floor, with marked footpaths and machine paths;
- Isolated heat sources, hot spot interventions only in specific areas, powder extinguishers, sand trays, well distributed and regularly checked;
- Appropriate evacuation of explosive gases, fumes and vapours;
- Electricity network compliant and regularly checked;
- Earthing of electrical appliances, protected sockets ;
- Noise reduction at source, machine insulation ;
- Store hazardous materials in ventilated and well-ventilated areas, away from sources of heat;
- At the workstation: limit the quantity of products present, use safety signs;
- Recovery of used oil in tanks and disposal in a specialised circuit;
- Regular monitoring of equipment and maintenance records;
- Provide workers with personal protective equipment and wear it whenever necessary;
- Equipping the site with the appropriate collective protective equipment;
- Etc.

6.2. Health

- *Routine and emergency medical service*

The Project will organise a routine and emergency medical service in all its facilities (base camp, offices, work sites). This service will include :

- An infirmary during the construction and operation phases of the project;
- An occupational health agreement with an occupational physician;
- A sufficient number of trained permanent first aiders whose contact details are readily available;
- First aid kits and adequate first aid kits in vehicles and machinery;
- An agreement with the hospital in Agadez for the management of cases beyond the competence of the site's infirmary.

- *Operation of the infirmary*

The infirmary will operate as follows:

- Presence of a permanent nurse: who will provide basic care and dressings. His/her services will be limited to cases of minor accidents and illnesses that are not proven to be dangerous or contaminating.
- Temporary hospitalisations will be carried out depending on the case, notably required to take medication or to carry out dressings.
- Supplies of medicinal products defined according to the epidemiological map of the region and the staff's health status sheet will be carried out regularly.
- An occupational physician will visit the infirmary once a week to consult with staff and provide occupational medicine.

➢ *Medical evacuation service*

Evacuations will be carried out to health centres agreed with GAC or the service provider, as appropriate. In the event of complications or aggravation of the injuries of an accident victim, the victim may be evacuated to other centres in Niamey.

6.3. Management of Hazardous Materials and Substances in Service

Safety Data Sheets (SDS) for the products in this range will be available from the HSE Manager and displayed in appropriate places accessible to user personnel.

In collaboration with the medical team, he will draw up summary tables to help manage the risks arising from contact with the human body.

The Medical Team should be equipped for primary care in case of poisoning (antidotes, oxygen, etc.)

6.4. Dust

Appropriate measures shall be taken to control inhalable and respirable dusts in all workplaces, in particular in areas where such dusts may be generated, e.g. at loading, unloading and transhipment points of materials and wastes, at crushing plants and on taxiways.

6.5. Ionising radiation

Within the framework of the activities on the project site, the necessary measures will be implemented to combat the effects of ionising radiation. The competent authority will be consulted on the national legislation and standards for radiation exposure. In concrete terms, the following measures will be defined and applied:

- Monitoring and dose assessment measures;
- Technical measures, including;
- Administrative protection measures;
- Personal hygiene measures.

6.6. Hygiene

The base's facilities will include toilet facilities for all company personnel.

Cloakroom facilities will be provided at the expense of the contractors to allow workers to exchange clothes.

The cleanliness of the facilities will be ensured by a team of maintenance staff who will be responsible for their daily maintenance.

As a result, identified bins or skips will be placed in the designated areas to accommodate ordinary waste consisting mainly of organic material for office areas.

This type of waste will be collected, stored and disposed of according to the recommendations of the waste management plan.

On site, the work areas will be cleared of all residues (off-cuts of planks, iron, cables, etc.) during the work and at the end of the day. This waste will be piled up, collected and stored according to the recommendations of the Environmental Management Plan.

Workstations will be left clean and tidy.

Awareness-raising campaigns on personal hygiene and cleanliness will be conducted among staff.

Drinking water will be available to all workers.

6.7. Policy on alcohol, drugs and unauthorised substances

The possession, consumption or distribution of alcohol, drugs or unauthorised substances is strictly prohibited at all workplaces in this project.

Employees who arrive at work or perform their duties under the influence of these products will be severely punished.

All necessary measures will be taken to detect, monitor and prevent any infringement of this prohibition.

The detection methods will consist of a systematic search of luggage at the entrance to the facilities or the findings of the HSE manager during surveillance rounds.

All employees of the company, of a contractor and of its subcontractors are subject to this prohibition.

Awareness-raising pictograms will be displayed on site explaining the harmful effects on health and prohibiting the introduction and consumption of alcohol, drugs and unauthorised substances on GAC premises.

6.8. Order and cleanliness

Arrangements will be made for:

- Improve working conditions;
- Reduce the risk of all types of accidents;
- To facilitate travel;
- Save time and costs;
- Waste management at all levels to avoid clutter;
- Do not pour any product without the agreement of the site manager;

- Please take all measures to avoid any pollution, even accidental;
- Use the bins provided for each waste product.

7. SECURITY MEASURES

7.1. HSE points

The HSE points will be held during the technical meetings of the site on a frequency to be determined and will concern the situation of the questions on the HSE aspects established by the HSE manager. They allow the site manager to inquire about HSE issues on the site and to take the necessary measures in accordance with regulations, the client's expectations, the donors' procedures and GAC's HSE policy.

HSE points allow:

- ensuring compliance with the rules on safety, health and working conditions;
- check the application of the measures decided at the HSE meetings;
- update the risk map and the measures to be adopted;
- to ensure that the HSE Plan is harmonised and updated in line with the activities on the site;
- to define common rules intended to contribute to the coordination of measures taken to ensure compliance with safety and health protection measures;
- to examine work-related accidents or incidents that occur at the workplace and to participate in the investigation of serious accidents,
- propose additional safety training and review regulatory training;
- Continuous review of health and safety measures;
- ensuring compliance with Health and Safety measures for workers

The HSE manager follows up on site the actions retained following the HSE points and integrates them into his situation presented during the site meetings

7.2. Reception of the worker on the site

The HSE manager ensures that every worker arriving on site is informed about the HSE measures to be applied in the work area, the general instructions and the HSE plan.

This training concerns permanent staff, subcontractors, unqualified staff and visitors, particularly with regard to reception and traffic procedures on the site.

The purpose of this training is to instruct on the precautions to be taken to ensure one's own safety and, if necessary, that of others on site.

This training must enable the worker to carry out his work under the best HSE conditions, both for himself and his colleagues, and to carry out his visit for the visitor.

The security reception is an important moment, too often neglected. It allows a good integration into the company, the project and the team. All personnel working on the site will therefore undergo a type of safety induction training beforehand.

This reception has two aspects:

- one material (administrative formalities, provision of tools or individual equipment);
- the other human.

Depending on the newcomer, the basics of the "Hygiene-Health-Safety Reception" training or awareness-raising may cover, among other things

- The presentation of the site;
- The HSE policy in place;
- Description of medical facilities and evacuation plan;
- Disciplinary measures in case of violation of safety rules;
- Collective and individual protective equipment;
- Emergency procedures;
- Security gatherings (security minutes);
- Accident/workplace accident/fire alert procedures;
- HSE guidelines;
- A training course on the reception of the work station which will deal with the technical aspect and the respect of the safety rules;
- Specific risks related to the workplace;
- Health and safety measures specific to the site;
- Etc.

In order to ensure the regular functioning of the procedures put in place and to enable their internalisation, simulation sessions will be organised.

7.3. Safety minutes

Safety minutes will be conducted by the team leaders (team leaders, site managers, department managers, etc.) in each section at a frequency to be determined by the subcontracting companies in agreement with the HSE manager. An attendance list will be signed to serve as a record.

7.4. Specific training

Depending on the findings of the internal and external (by regulatory bodies) inspections carried out, the relevant contractor companies will organise specific safety training. This training will be provided by the HSE manager, a service provider or by internal staff with good experience in the subject matter of the training.

All training will be coordinated by the HSE Manager and programmes may include

- Rescue and first aid at work ;
- The use of various devices and tools;

- Stress in the workplace ;
- Risks related to the activities ;
- The line of conduct and road safety ;
- Fire prevention and control ;
- Etc.

7.5. Staff information and communication

To ensure staff information and communication, signs will be installed at the work areas on the site. They will indicate:

- The place concerned;
- Safety results (in accidents at work and days off work);
- Mandatory PPE;

In addition, signs with essential safety and prevention notices will also be placed in appropriate places that can be easily read by all.

The rules recalled concern:

- Wearing PPE;
- Prohibition of public access to the site;
- Seatbelt use in vehicles;
- Compliance with speed limits;
- Not drinking and driving and not drinking and driving at work.

Finally, the various officials will be provided with modern means of communication (mobile phones) enabling them to seek advice or receive any information related to accident prevention.

7.6. Protection of personnel on site

7.6.1. Collective protection

Collective protection equipment will be installed wherever necessary and used by workers against hazards (falling from heights, falling objects, etc.). All collective protection equipment is subject to periodic monitoring.

The partial or total dismantling of collective protection is strictly forbidden without compensatory measure(s) and without the agreement of the site manager and the HSE Manager.

Any person who notices a collective protection defect must immediately notify the site manager or the person in charge of the work being carried out.

7.6.2. Personal Protection

To ensure the personal protection of workers, the wearing of PPE will be one of the fundamental elements of HSE actions at the GAC site. This includes wearing the following basic mandatory PPE:

- Safety helmet;
- Safety shoes;
- Working clothes;
- Safety waistcoat.

Specific PPE, therefore depending on the position, will be provided to the staff concerned on request. These are (es):

- Safety glasses with side protection;
- Earplugs, earmuffs or headphones;
- Handling gloves;
- PVC safety boots;
- Gloves of different types (welder, PVC);
- Respiratory protection mask (dust, gas, etc.);
- Specific protective glasses (grinding, welding, flame cutting, etc.);
- Aprons and other specific work clothing;
- Rain sets;
- Etc.

The HSE manager will ensure the supply and distribution of this PPE.

7.6.3. Staff transport

The transport of personnel to and from the work sites will be provided by vehicles equipped for the transport of personnel, thus ensuring their safety.

For holidays or recuperation, the subcontracting companies will establish agreements with the transport companies of their choice to bring the workers to Agadez. Depending on their destination, each company will bear the corresponding transport costs.

7.7. Main registers to be kept at the work site

To ensure good control of information on hygiene, health and safety on the site, registers that are continuously maintained and filled in will be set up for each workstation. These will include the following registers:

- Fire prevention plan;
- Register of the Labour Inspection (administration and HSE);

- Safety and control register for machinery and installations (electrical installations, lifting equipment, safety devices, cables - chains - ropes - hooks, mobile cranes, compressed gas containers, self-propelled trucks, etc.);
- Maintenance and intervention register (kept in the maintenance department office);
- Register of periodic inspections (kept in the Material Services office);
- Near miss, accident, near miss and incident register;
- Fire register (HSE Officer);
- Register of minor accidents (infirmary);
- Complaint Register (HSE Officer);
- First aid register (infirmary).

8. HAZARD PREVENTION MEASURES

8.1. Cohabitation of pedestrian equipment:

Traffic will be regulated in accordance with the needs of the site to avoid the risks associated with machine/pedestrian cohabitation.

8.2. Machinery and vehicles

All personnel (GAC, subcontractors, etc.) will respect the highway code on the public space and the traffic rules on the site. Signage and internal instructions must be strictly respected.

The following provisions must be observed:

- Mandatory wearing of seat belts while driving ;
- The 30 km/h speed limit;
- Supervision of the manoeuvres of large machines;
- Authorisations to operate large machinery;
- Regular monitoring of the sensitive points of the equipment (lighting, glass surfaces to ensure good visibility, etc.).

8.3. Handling

Materials, products and waste will be moved with the help of machinery.

Manual handling is only used for occasional operations with small loads and small spaces.

Gloves must be worn during handling.

Staff should adopt a good posture to avoid the risk of low back pain.

8.4. Crane guiding Slinging

The main risks are:

- Impact with the load (with the installation or a person) ;
- Load drop;
- Hand contusions, entrapment;
- Collision.

The obligations to be respected are:

- Use and wearing of appropriate protective equipment (collective and individual);
- Trained and identified chief of labour;
- Know the load to be moved;
- Mark out the safety zone;
- Do not use the telephone while driving.

During the manoeuvre, it is strictly forbidden:

- Move the load over the workstations;
- Use the equipment without specific training.

8.5. Periodic General Checks

Machines with annual or biannual periodic checks will be used. The HSE manager will carry out regular inspections.

Reports of machine checks are kept by the equipment manager with a copy to the HSE manager.

8.6. Care and maintenance

All machinery (fixed and mobile), including that of subcontractors, will be regularly maintained and kept in good working order.

8.7. Signage, marking, access, lighting

8.7.1. Signalling

The presence of the works and the construction site rights of way are indicated. The signs and their layout comply with the rules and good practices in force in this area.

8.7.2. Access

Entry to and exit from the rights of way are in forward gear. Truck accesses are designed to avoid manoeuvring.

When lorries arrive or leave the site, which requires manoeuvring, a person in high-visibility clothing helps the driver to manoeuvre safely for both road users and site personnel. During the manoeuvre, visual contact between the driver and the pedestrian is permanent.

Reverse driving must be exceptional (technical necessity) and assisted by a person (pedestrian) equipped with high visibility clothing.

8.7.3. Beaconing

Depending on the case, two types of markings should be used:

- Light marking: (tape) to indicate a temporary low-risk area (cutting work, lifting, etc.);
- Hard markings: (barriers, scaffolding elements, netting) to physically prevent people from passing (e.g. hole in a deck, heavy handling, etc.).

8.8. Working at height

Risk: falling person or object

Preventive measures:

- Wearing a safety helmet;
- Wearing a safety harness;
- Marking of the work area;

- Electrical lockout if working near potentially dangerous electrical installations.
- Ladder in conformity (presence of runners in good condition, rungs and structure in good condition,...), hung (to be used only to access the work area);
- Platform, equipment and use in compliance;
- Authorisation to operate lifting equipment (permits will be issued prior to handing over the work);
- Stable rolling scaffold with wheel lock;
- Use of stable stepladders equipped with a working platform surrounded by railings;
- Authorisation to work at height;
- Recording in the work permit.

8.8.1. Scales

Ladders are primarily a means of access to equipment at a height and should not be used instead of scaffolding, platforms or aerial work platforms, except for short-term work.

- Use ladders in good condition, adapted (length) to the work to be done, equipped with anti-slip systems;
- Check that the ladder is clean. No grease (e.g. grease);
- Secure the ladder at the top or place a person to hold the bottom of the ladder for the duration of the operation;
- Use a ladder that is one metre higher than where you are climbing;
- Install a ladder at approximately 70°;
- Always climb up and down facing the ladder and hold on with both hands;
- Mount the equipment in a bag with a rope;
- Respect the 3-point rule.

8.9. Storage

Materials, equipment and waste will be stored in dedicated and purpose-built facilities.

8.9.1. Storage of flammable products

The storage of flammable products shall be carried out exclusively in appropriate places equipped for this purpose. These places must be secured and equipped with all the necessary fire prevention and fire fighting equipment.

Safety data sheets for the products will be displayed and clearly visible.

Finally, the actions and knowledge to be taken in the event of a fire will also be displayed.

8.10. Loading and unloading

When loading or unloading, the truck must be stopped with the parking brake on and the gear lever in neutral.

In case of slopes, chocks are used to complete the immobilisation. The engine is stopped.

Personnel involved in loading or unloading must have the necessary training and authorisation.

8.10.1. Fuel distribution

The person responsible for the management of the station (distribution point) will ensure strict compliance with the relevant safety and environmental management guidelines.

8.10.2. Lighting

Each work area will be sufficiently lit to provide a sense of visual comfort for all operators.

8.11. Electricity

Electrical installations are designed, installed and maintained by qualified personnel. The personnel are trained and have the appropriate authorisations.

All electrical cabinets are locked and padlocked (or equivalent). All work on electrical equipment is carried out by an electrician.

The metal grounds are earthed.

Only electricians are authorised to work on an electrical installation.

An examination of the conformity of the electrical installations is carried out by an approved body at the time of commissioning. This initial verification is the subject of a report.

8.12. What to do in case of an accident on the project site

The right reflexes to cultivate in the event of an accident:

- In case of personal injury:
  - Protecting the casualty;
  - Call the first aider in the area, the nurse, the HSE manager who will call for help;
  - Helping the victim while waiting for help;
  - After giving first aid, have the victim transported to hospital by the competent services.
- In case of alarm:
  - Do not panic;
  - Take every precaution to ensure that the equipment is stationary and safe;
  - Go to the nearest assembly point.

9. HYGIENE, SAFETY AND HEALTH ACTION PLAN

Table 3 below shows the Health, Safety and Security Plan for the Adrar Emoles 3 Exploration Permit Project, which may be adapted to suit the activities at the project site.

Table 3 Health, Safety and Security Plan

COMPONENT	DOMAIN	MEASURES	OBJECTIVE OF THE MEASURE	MONITORING INDICATOR	MEANS OF VERIFICATION	MONITORING OFFICER	FREQUENCY
Rescue and evacuation arrangements	Alert procedure	Awareness-raising for all staff by means of posters at the safety reception, HSE Round	Mastering what to do in an emergency	Presence of emergency procedure signage ; Number of hosts	HSE points ; Monthly HSE report ; Scoreboard	HSE Manager	Monthly
	Assembly point	Putting up signs indicating assembly points	Gather staff in a specific location, count them and evacuate them in an emergency	Number of assembly points with signs in place, known to all staff and visible	Findings	HSE Manager	Monthly
	First aid workers	Training staff in first aid and rescue at work	Giving first aid	Number of workers trained in first aid	Attendance list	HSE Manager	Quarterly
	Infirmary	Setting up the nurse and his or her medical equipment	First aid management	Sick bay installed and medical equipment set up	Findings	HSE Manager	Monthly
	Evacuation procedure	Awareness-raising for all staff by means of posters, during the safety reception	Mastering what to do in an emergency	Display emergency procedure	Findings	HSE Manager	Monthly
	Workers trained in firefighting	Train workers in first aid in case of fire	Carrying out the first fire response	Number of workers trained	Attendance list for courses	HSE Manager	Quarterly
	Fire-fighting equipment	Place fire extinguishers in all fire risk areas	Facilitating the first firefighting response	Fire extinguishers in all fire risk areas	List and findings	HSE Manager	Weekly
Hygiene	Workers' changing rooms	Provision of equipped changing rooms	Improvement of the living environment of workers	Lockers available and maintained	Findings	HSE Manager Subcontracting companies	Monthly
	Sanitary facilities	Installation of toilets consisting of showers, hand-washing facilities, toilets	Improvement of hygiene conditions at work	Sanitary facilities available	Findings	HSE Manager Subcontracting companies	Monthly
	Water points	Availability of water points	Improving hygiene conditions at work	Presence of water points	Findings	HSE Manager Subcontracting companies	Monthly

	Waste management	Provision of waste bins and skips	Improvement of the living environment on the site	Presence of bins and skips	Findings	HSE Manager Subcontracting companies	Monthly
Health	Medical service	Establishment of: A site infirmary; An occupational health agreement; A team of trained permanent first aiders; Means of evacuation in the event of a serious accident	Preventing occupational diseases and providing basic care and support for victims of work-related accidents	Medical service in place and functioning	HSE points ; Monthly HSE report ; Findings	HSE Manager	Monthly
	Policy on alcohol, drugs and unauthorised substances	Raising staff awareness through posters and during safety meetings; Organisation of unannounced checks on alcohol and drug consumption on the site.	Fight against the use of alcohol, drugs and unauthorised substances on the site	Visible display and security reception carried out developing this aspect; Number of unannounced checks carried out	Attendance list ; Minutes of unannounced checks	HSE Manager	Monthly
	Management of Hazardous Materials and Substances in Service	Availability of safety data sheets (SDS)	Controlling the risks of chemicals used on the site	SDS available	Findings	HSE Manager	Monthly
Security	HSE Home	Raise the newcomer's awareness of the HSE issues on the site	Facilitate the HSE integration of the newcomer	Number of awareness sessions conducted	Attendance list ; HSE points, Monthly HSE report	HSE Manager	Monthly
	HSE minutes	Raise staff awareness of the risks and preventive measures to be respected	Controlling risks and prevention measures	Number of safety minutes achieved	Attendance list ; HSE points, Monthly HSE report	HSE Manager	Monthly
	Specific training	Train workers to optimise their skills and know-how	Capacity building for workers	Number of training courses carried out	Attendance list ; HSE points, Monthly HSE report	HSE Manager	Monthly

	Staff information and communication	Installation of awareness and information boards and panels	Awareness raising and information for staff and visitors	Panels and boards installed	Findings	HSE Manager	Monthly
	Collective protection	Setting up collective protection against dangers (falling from heights, falling objects, etc.), and of defensive forces and safety devices	Protection of staff and local residents	Collective protection in place Presence of defence and security forces on site	Findings	HSE Manager	Monthly
	Personal protection	Equip operational staff with PPE	Protection of the worker	Equipped operational worker	Findings	HSE Manager	Monthly
Social security	Social protection	Social security registration of workers	Social security of the worker	Registered workers	Findings	Administration; Subcontracting company	Monthly
Hazard prevention measures	Coexistence of pedestrians and machinery	Traffic management on the site	Eliminate the risk of machine/pedestrian collision	Traffic control system in place	Findings	HSE Manager	Monthly
	Vehicles and machinery	Compulsory wearing of seat belts; dismounting from the cabs of machines in compliance with the 3-step rule; speed limit for vehicles; switching on flashing lights and code lights at night and in poor visibility.	Prevent accidents to people and possible material damage.	Compliance with seatbelt use ; Respecting the speed limit ; Flashing lights and code lights on.	Findings	HSE Manager	Monthly
	Subcontractors	Monitoring the condition of subcontractors' machinery and vehicles	Conformity of the material used	Monitoring carried out	Inspection report; Monthly HSE report	HSE Manager	Monthly
	Care and maintenance	Inspection of rolling stock and equipment	Conformity of the material used	Equipment and rolling stock inspected	Inspection report; Monthly HSE report	HSE Manager	Monthly

	Signage, access, lighting	Installation of signage; Access to the workstation; Adequate lighting of the facilities	Limiting the risk of accidents and occupational diseases	Signs posted; access to workstation well laid out; sufficient lighting of facilities	Findings	HSE Manager	Monthly
	Electricity	Maintenance of electrical installations by qualified and authorised personnel; electrical cabinets are closed and padlocked (or equivalent); earthing of metallic grounds	Prevent accidents to people and possible damage to property.	Entitlement available; Number of non-conformities found; Cabinets closed; Metal grounds grounded	Register, Findings	HSE Manager	Monthly
	Storage	Correct storage of materials in dedicated areas	Freeing up traffic lanes and reducing the risk of accidents	Well stored and tidy equipment	Findings	HSE Manager	Monthly
	Handling	Training in gestures and postures; provision of PPE	Safety of the worker during handling work	Safety minutes, Provision of PPE	Attendance list ; Findings	HSE Manager	Monthly

CONCLUSION

Despite the significant positive impacts associated with the implementation of the Adrar Emoles 3 Exploration Permit, the project will be a source of potential risks to the health, safety and security of workers and neighbouring populations. The present Health, Safety and Occupational Health Plan developed within the framework of the said permit has made it possible to define the conditions necessary to ensure the implementation of activities in complete safety. It concerns the provisions for rescue, health and hygiene measures, safety measures and measures to prevent dangers.

In order to monitor the indicators linked to the implementation of the planned measures, a Health, Safety and Security Action Plan has been drawn up based on the following points: components, areas of measures to be implemented, objectives to be achieved, monitoring indicators, person responsible for monitoring and frequency.