

BOQ – Fire Detection and Suppression Syst

Two Process Kilns

Item	Description	Unit
1	Engineering & Project Management	
1.1	Engineering design, system architecture and hydraulic calculations	Lot
1.2	Project management, coordination and documentation	Lot
1.3	Mobilization and demobilization	Lot
1.4	Installation labour and supervision	Lot
1.5	Tools, consumables and temporary works	Lot
2	Kiln #1 Fire Detection & Suppression System	
2.1	Fire Detection System	Lot
2.2	Fire Suppression System	No
2.3	PLC/SCADA Interface	Lot
3	Kiln #2 Fire Detection & Suppression System	
3.1	Fire Detection System	Lot
3.2	Fire Suppression System	Lot
3.2	PLC/SCADA Interface	Lot
4	Testing & Commissioning	
4.1	Integrated PLC/SCADA Testing	Lot
4.2	Commissioning	Lot
5	Documentation & Training	
5.1	As-built Drawings	Lot
5.2	Operation & Maintenance Manuals	Lot
5.3	Operator Training	Lot
5.4	Maintenance Training	Lot
6	Recommended Spare Parts	
6.1	Spares Detection system	Lot
6.2	Spares Suppression system	Lot

Item for

Qty
1
1
1
1
1
1
As Required
1
1
1
1
1
1
1
1

KIBALI GOLD MINE

SCOPE OF WORK FOR DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF FIRE DETECTION & SUPPRESSION SYSTEMS FOR TWO PROCESS KILNS

Document Title	Design, Supply, Installation, Testing and Commissioning of Fire Detection & Suppression Systems for Two Process Kilns
Department	Engineering
Service Required	Installation of a Fire Detection and Suppression System



1. INTRODUCTION

1.1 Company Background

Kibali Gold Mine (KGM), operated by Barrick Gold Corporation in partnership with AngloGold Ashanti and Société Minière de Kilo-Moto (SOKIMO), is one of Africa's largest and most technologically advanced gold mining operations. The mine comprises extensive underground and open-pit mining operations supported by modern mineral processing facilities designed to maintain high production efficiency while meeting stringent international standards for safety, environmental stewardship, and operational excellence.

The Process Plant forms a critical component of the mining operation, where several process systems operate continuously to support gold recovery. Among these assets are two diesel-fired process kilns that play an essential role in the production process. Due to the nature of their operation, these kilns present significant fire hazards arising from high operating temperatures, combustible fuels, burner assemblies, electrical equipment, and associated fuel delivery systems.

As part of Kibali Gold Mine's commitment to improving process safety, protecting critical assets, and minimizing production interruptions, the installation of dedicated fire detection and automatic fire suppression systems has been identified as a priority safety improvement project.

This Scope of Work defines the engineering, procurement, installation, testing, commissioning, documentation, and handover requirements necessary to deliver a complete fire protection solution for both process kilns.

2. PROJECT BACKGROUND

The two diesel-fired process kilns currently operate without dedicated automatic fire detection and fire suppression systems. Although existing operational controls and routine inspections contribute to safe operation, the absence of an engineered fire protection system exposes personnel, production equipment, and surrounding infrastructure to unnecessary fire risk.

The operating conditions around the kiln burner assemblies, fuel supply systems, electrical control panels, lubrication equipment, and cable installations present credible ignition sources capable of initiating fires that may rapidly escalate if not detected and controlled at an early stage.

The objective of this project is to eliminate this risk by implementing a modern fire detection and automatic suppression system capable of providing continuous monitoring, rapid fire detection, automatic suppression, equipment shutdown, and alarm notification while integrating seamlessly with the existing plant control infrastructure.



The completed installation shall comply with internationally recognized fire protection standards and reflect good engineering practice for industrial process facilities.

3. PROJECT OBJECTIVES

The primary objective of this project is to provide a fully integrated fire protection system that safeguards personnel, process equipment, and production continuity through the early detection and automatic suppression of fire hazards associated with the two process kilns.

More specifically, the project aims to:

- Reduce the risk of fire-related injuries and equipment damage.
- Provide reliable automatic fire detection and suppression for both kiln installations.
- Minimize production downtime resulting from fire incidents.
- Integrate the fire protection system with the existing PLC and SCADA systems.
- Ensure compliance with applicable NFPA and IEC standards.
- Deliver a complete turnkey solution ready for operation and long-term maintenance.

4. PROJECT OVERVIEW

The project comprises the complete engineering, procurement, installation, testing, commissioning, and handover of automatic fire detection and fire suppression systems for both process kilns.

The work includes detailed engineering, procurement of equipment and materials, mechanical and electrical installation, system integration, testing, commissioning, operator training, and submission of all required technical documentation.

The complete installation will provide continuous fire monitoring, automatic suppression, alarm annunciation, emergency shutdown functions, and full integration with the existing plant control infrastructure.

5. DETAILED SCOPE OF WORK

5.1 Engineering and Design

The project includes complete engineering and design of the fire detection and suppression systems for both process kilns.

Engineering activities include detailed site surveys, fire risk assessments, hazard identification studies, hydraulic calculations, equipment selection, General Arrangement drawings, Piping and Instrumentation Diagrams (P&IDs), electrical schematics, cable schedules, instrument schedules, control philosophies, and Cause-and-Effect diagrams.



The design must provide effective protection for all identified fire hazards associated with the burner assemblies, fuel systems, electrical equipment, lubrication systems, and adjacent process areas.

All engineering documentation will be submitted for review and approval before procurement and construction commence.

5.2 Procurement and Supply

The project includes the procurement and supply of all equipment, materials, fittings, accessories, and consumables required to complete the installation.

Equipment includes fire detection devices, fire suppression equipment, control panels, suppression pipework, valves, discharge nozzles, electrical equipment, fire-rated cabling, junction boxes, cable containment systems, mounting hardware, warning signage, identification labels, and all ancillary components necessary for a complete operational system.

All supplied equipment must be new, fit for continuous industrial service, and manufactured in accordance with applicable international standards.

5.3 Fire Detection System

A complete industrial fire detection system will be installed to provide continuous monitoring of both process kilns.

The system will utilize appropriate detection technologies for high-temperature industrial environments, including UV/IR flame detectors, linear heat detection cable, heat detectors where required, and an addressable fire alarm control panel.

The detection system will provide continuous monitoring, rapid fire detection, alarm annunciation, fault monitoring, event logging, and supervisory diagnostics while minimizing nuisance alarms.

The system will also interface with the plant PLC and SCADA to provide centralized monitoring and alarm management.

5.4 Fire Suppression System

A fully automatic fire suppression system will be installed to protect both process kilns against identified fire hazards.

The system will comprise suppression equipment, distribution pipework, discharge nozzles, release mechanisms, isolation valves, instrumentation, and associated control equipment designed specifically for the identified fire risks.

Automatic suppression will be initiated following confirmed fire detection, while manual release and abort facilities will be provided to support emergency intervention where required.

The overall system design will prioritize personnel safety, rapid fire control, and protection of critical process equipment while minimizing unnecessary production interruptions.

5.5 Electrical and Control Integration

Electrical and control work include the installation of all power, control, instrumentation, and communication systems required for the fire protection installation.

The completed system will interface with the existing PLC and SCADA infrastructure, allowing operators to monitor alarms, faults, suppression status, and overall system health from the central control room.

Upon confirmed fire detection, the fire protection system will automatically initiate the approved emergency shutdown sequence, including isolation of the fuel supply through electrically actuated shut-off valves together with any additional interlocks identified during the detailed engineering phase.

The control philosophy will incorporate fail-safe principles together with manual override facilities where operationally required.

5.6 Mechanical Installation

Mechanical installation includes equipment mounting, pipe fabrication, piping installation, valve installation, nozzle positioning, support fabrication, equipment alignment, pressure testing, equipment identification, and final inspection.

All installation work will comply with approved engineering drawings, manufacturer recommendations, and recognized industrial engineering practices suitable for continuous-duty mining operations.

5.7 Testing and Commissioning

Following installation, comprehensive testing and commissioning activities will verify that every component of the fire protection system operates in accordance with the approved design.

Testing will include electrical verification, detector functional testing, suppression system testing, hydrostatic pressure testing where applicable, communication testing, Cause-and-Effect verification, PLC and SCADA integration testing, emergency shutdown verification, Site Acceptance Testing (SAT), and final commissioning.



Any deficiencies identified during commissioning will be rectified before final handover.

Successful commissioning will demonstrate that the system is fully operational, reliable, and ready for continuous service.

6. PROJECT DELIVERABLES

At project completion, a comprehensive documentation package will be submitted, including approved engineering calculations, hydraulic calculations, General Arrangement drawings, P&IDs, electrical schematics, control drawings, Cause-and-Effect Matrix, equipment data sheets, inspection reports, calibration certificates, pressure test reports, commissioning reports, factory test certificates, operation and maintenance manuals, recommended spare parts lists, warranty certificates, and complete as-built drawings.

7. CODES AND STANDARDS

All engineering, procurement, installation, testing, and commissioning activities must comply with the latest editions of applicable international standards, including NFPA 11, NFPA 15, NFPA 20, NFPA 30, NFPA 72, NFPA 86, IEC 60364, and IEC 60079, together with all applicable statutory and mine safety requirements.

8. QUALITY ASSURANCE AND HSE REQUIREMENTS

The project will be executed under a comprehensive Quality Assurance and Quality Control program to ensure compliance with approved engineering standards and project specifications.

All work must comply with Kibali Gold Mine's Health, Safety, and Environmental requirements, including permit-to-work procedures, lockout/tagout requirements, working at height controls, hot work permits, housekeeping standards, and risk management procedures. Project-specific risk assessments and method statements will be completed and approved before commencement of work.

9. TRAINING AND DOCUMENTATION

Following successful commissioning, comprehensive training will be provided to operations and maintenance personnel covering system operation, emergency response, routine inspection, preventive maintenance, fault diagnosis, and restoration of the system following alarm or suppression events.

Training will combine classroom instruction with practical demonstrations using the equipment installed.

10. WARRANTY

A minimum warranty period of twelve (12) months from the date of successful commissioning is required. During the warranty period, defects arising from equipment supplied or workmanship will be corrected at no additional cost, excluding failures resulting from misuse, accidental damage, or normal operational wear.

11. ADDITIONAL INFORMATION

1. DESIGN BASIS

Fuel: Diesel; Burners: 8; Operation: Automatic/Semi-automatic; Temperature range: 700–750°C; Continuous operation.

2. KILN SYSTEM

Carbon steel kiln shell (ASTM A36), refractory lining (ASTM C27), stainless steel anchors, burner ports, inspection doors.

3. DIESEL BURNER SYSTEM

8 diesel burners with atomizing system, ignition, flame scanner, control valves, turndown ratio $\geq 1:5$.

4. DIESEL STORAGE TANK

Horizontal steel tank (API 650), capacity 400 m³, level gauge, bund wall.

5. FUEL SUPPLY SYSTEM

Steel piping (ASME B31.3), pumps (duty/standby), duplex filters, valves, return lines.

6. ELECTRICAL SYSTEM

MCC panels, cabling (IEC), earthing system, safe routing.

7. INSTRUMENTATION & CONTROL

PLC, thermocouples, HMI.

8. SAFETY SYSTEMS

Flame failure trip, alarms, temperature protection.





Note: A tender clarification meeting will be held seven days following the publication of this invitation to tender. Interested bidders are requested to contact the email address below to obtain the meeting schedule and further details.

Kibali.ServiceContract@barrick.com

PRE-BID RISK ASSESSMENT FORM

Document Reference:	Revision Number	Original Issue Date	Review Date
BGC-CORP-FORM-002	0	January 20, 2025	January 18, 2030

Project Name: (Reference SOW)	Design, Supply, Installation, Testing and Commissioning of Fire Detection and Fire Suppression Systems for Two Process Kilns
Project Description:	Installation of a fire Detection and Suppression on the process KILNS

Tasks	Hazards	Controls
Site inspection	Moving plant equipment	Plant induction, escort, designated walkways, communication with operations
Mobilization	Vehicle movement	Licensed drivers, speed limits, spotters where required
Working at height	Fall from platforms or structures	Approved Working at Height Permit, certified scaffolding, full body harness, inspected anchor points
Scaffolding	Scaffold collapse	arrick-approved scaffolding, inspection tags, competent scaffolders
Mechanical installation	Dropped objects	Barricading, tool lanyards, exclusion zones, lifting plans
Lifting equipment	Crane failure or suspended loads	Certified lifting equipment, lifting plans, qualified riggers and crane operators
Pipe installation	Manual handling	Mechanical lifting aids, team lifting, manual handling training
Welding and cutting	Hot work	Hot Work Permit, fire watch, extinguishers, gas testing where applicable
Grinding	Flying particles	Face shields, safety glasses, guarding, PPE
Electrical installation	Contact with live circuits	LOTOTO, isolation verification, qualified electricians, insulated tools
Cable termination	Arc flash	Arc flash PPE, isolation procedures, test before touch

Fuel shut-off integration	Accidental fuel isolation	Planned shutdown window, operator authorization, functional testing
Detector installation	Work near hot equipment	Allow equipment cooling or perform work during shutdown
Pressure testing	Pipe rupture	Controlled test area, calibrated equipment, pressure relief, competent personnel
Functional testing	Unexpected system activation	Notify Operations, isolate suppression release where necessary, approved test procedures
Environmental	Oil or chemical spill	Spill kits, waste management plan, trained personnel
Click or tap here to enter text.		Click or tap here to enter text.

Select all the Fatal Risks present:

				
☒ Stored Energy	☒ Falling from Heights	☒ Lifting	☐ Blasting and Explosives	☐ Hazardous Substances and Chemicals
				
☐ Confined Spaces	☒ Mobile Equipment	☐ Fall of Ground	☐ Rotating Equipment	☒ Fire

Control Effectiveness:	Fully Effective
Additional actions needed before job start:	N/A
Identified Risk Level:	☐ Low ☐ Medium ☒ High ☐ Very High

Responsible	Name	Signature	Date
--------------------	-------------	------------------	-------------

Technical Representative	Melchi Mulaba		2026/07/21
Safety Representative	Click or tap here to enter text.	Joseph Bembo 	Click or tap to enter a date.

Appendix

Risk Ranking matrix:
Compares likelihood of the risk with the consequence level based on the consequence criteria.

*This matrix will be used to evaluate the significance of the risk and its priority for attention.

Likelihood Level						
5	Medium	Medium	High	Very High	Very High	
4	Low	Medium	High	Very High	Very High	
3	Low	Medium	High	High	Very High	
2	Low	Medium	Medium	High	Very High	
1	Low	Low	Medium	High	High	
	1	2	3	4	5	
		Consequence Level				

Likelihood criteria:
Likelihood levels will be chosen from the table below based on the probability that the expected impact selected in from the consequence criteria will be experienced.

Level	Probability
5 Almost Certain	>90%
4 Likely	50% - 90%
3 Possible	>25% - <50%
2 Unlikely	10% - 25%
1 Very Unlikely	<10%

Consequence Criteria:
Consequence levels will be chosen from the table below based on the expected impact on Barrick, choosing the worst case of the consequence types that are pertinent. This should reflect the assessment of the existing controls and their effectiveness.

Level	Financial (Operating cash flow)	Shareholder Value (NPV/ Market cap)	Health and Safety	Environment	Society (Community, NGO, Government, Media)	Legal
5	>\$250m	>\$1b	Multiple fatalities or significant loss of quality of life to multiple people.	Severe regional impact resulting in permanent long-term impact to the environment. Immediately reportable to Government or State	Significant loss of trust by affected, national and/or government threatening the continued viability of the operation. International and national government, NGO and media condemnation. Systemic pattern of gross human rights violations affecting multiple people.	Prolonged litigation likely. Potential jail terms and/or high fines for executives and directors. Potential very high fines for the company.
4	>\$100m<\$250m	>\$500m<\$1b	Single fatality or critical injury with a permanent negative impact to quality of life for one person	Significant impact with medium to long-term impairment and residual ecosystem effects. Regulatory agency mandated remediation and/or monitoring over a long-term period to determine extent of adverse environmental impact. Immediately reportable to Government or State.	Community unrest and/or protest requiring intervention and substantial management attention. National and/or regional media coverage over several days and/or NGO condemnation. Individual gross human rights violation or systemic negative human rights impacts.	Prosecution of individuals and/or significant fines for individuals and/or the company.
3	>\$20m<\$100m	>\$50m<\$500m	Serious injury to one or more persons resulting in temporary negative impact to quality of life. (RDI & LTI)	Moderate impact resulting in medium – term impacts to the environment. Remediation completed in compliance with regulations over a medium-term period without any anticipated residual adverse environmental impacts. Potentially reportable to State or government, but not immediately.	Persistent community grievances, complaints, unrest or protests. National and/or regional media coverage and/or NGO scrutiny. Systemic or severe individual negative impacts on human rights.	Significant legislation or permit non-compliance or litigation likely resulting in settlement costs and/or fines.
2	>\$1m<\$20m	>\$10m<\$50m	Reversible injury to one person. (no lost time to work performance) but requiring medical treatment (MTI)	Localized, minor impact within the current or planned disturbance area (or isolated offsite impacts.) Limited remediation, and/or controls required to meet regulatory standards. Potentially reportable to State or Government but not immediately.	Persistent complaints and grievances, unrest or protests. Local Media coverage. Isolated negative impacts on human rights	Legislation or permit non-compliance or litigation likely resulting in need for legal engagement.
1	<\$1m	<\$10m	Minor injury not affecting work performance and requiring only a single first aid treatment.	Environmental incident with an area already distributed by operations, with short-term impacts. Remediation carried out as part of routine processes. Not reportable to the government.	Minor complaints and grievances from local communities. No impact on human rights.	Minor non-compliance with legislation or permits.

Control Effectiveness:	
A relative assessment of the degree of modification that is currently present and effective compared with that which is reasonably achievable for a particular risk.	
Descriptor	Guide
Fully Effective	Controls are as good as realistically possible, both well-designed and implemented as well as they can be.
Substantially Effective	Controls are generally well-designed and well implemented but some improvement is possible in their design or implementation.
Partially Effective	Controls are well-designed but are not implemented that well. OR While the implementation is diligent, it is clear that better controls could be devised.
Largely Ineffective	There are significant gaps in the design or in the effective implementation of controls – much more could be done.
Totally Ineffective	Virtually no credible controls relative to what could be done.

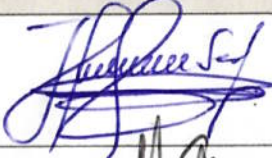
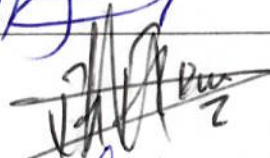
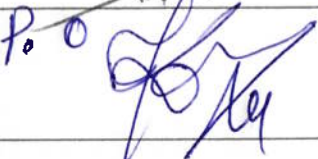
Fatal Risk	Critical Controls
Stored Energy	De-energize: Identify sources of energy and ensure they are zero-state
	LOTO: Remember to always lock out – tag out – try out
	Guards, Barriers, and Barricades: Ensure they are in position and effective
	Lock-out Device: Use the appropriate lock out device to isolate the energy source
	Personal Lock and Tag: Have your OWN lock and tag, with unique key
Falling from Heights	Rescue Plan: Ensure a rescue plan is in place before starting work above 1.8m.
	Fall Equipment: Inspect and wear the correct fall-restraint or arrest equipment when working above 1.8m.
	Tie Off: Stay 100% tied off at all times on approved anchor points.
	Elevated Platforms: Only work from certified elevated platforms.
	Barriers: Ensure barriers are in place to prevent people or objects from falling over edge; ensure exclusion zones are demarcated.
Lifting	Lift Plan: Determine how the lift will be carried out with input from all persons involved.
	Equipment and Rigging: Ensure all lifting equipment is inspected, certified, and load is secured and controlled.
	Calculate and Confirm: Analyze the weight of the load and all associated equipment parameters.
	Drop Zone: Erect barricades and exclusion zones to restrict access to the area under a suspended load or within a drop zone.
	Communication: Positive communication from a single person to operator.
Blasting & Explosives	Communication: Scheduled and effective blast notification to all site personnel.
	Blast Design: Compliance with the approved drill and blast design.
	Transport Equipment: Safely transport explosives using approved, certified, and maintained explosives-transport equipment.
	Exclusion Zones: Establish and restrict access of personnel and equipment to blast exclusion zones with barricades.
	Access Control: Lock out – tag out on stinger and blast tag boards, to ensure all individuals are accounted for.
Hazardous Substances and Chemicals	PPE: Wear correct hazardous-materials PPE in line with Safety Data Sheet (SDS)
	Access: Restrict access to authorized personnel only
	Emergency Response: Containment: and exposure measures must be on hand and working according to SDS guidance
	Detection and Alarm Systems: Correct detection devices and alarms are in place and fully functional.
	Handling and Transfer: Protection protocols are in place when handling and transferring chemicals based on SDS.
Confined Space	Rescue Plan: Formulate a rescue plan and ensure that a spotter is in place at all times.
	Permit: Ensure you have a signed and complete permit to access entry point.
	Energy Isolation: All possible energy sources have been identified and controlled per lock out – tag out – try out (LOTO)
	Access Control: Work area to be demarcated and access control to be managed by a spotter at all entry points.
	Atmosphere: Test and confirm atmosphere is life-sustaining and continue monitoring.

Mobile Equipment	Pre-Use Inspection: Confirm functionality of braking, steering, and safety devices.
	Parking: Follow safe, secure, and stable parking practices in designated parking areas.
	Traffic Management Plan: Adhere to road designs, rules, signage, and segregation of equipment and pedestrians.
	Berms and Windrows: Ensure that berms and windrows are installed to standard and maintained.
	Communication: Ensure positive communication is maintained at all times.
Fall of Ground	Mobile Devices: Do not use phones, smart watches, or tablets when driving.
	Workplace Inspection: Inspected, properly scaled down, and made safe.
	Geotechnical Inspection: Ensure that inspections are completed, and workplaces are continuously monitored.
	Ground Control Management Plan: Ensure that the plan is implemented and communicated.
	Barricading and Exclusion Zones: Ensure exclusion zones have been identified and maintained.
Rotating Equipment	Water Management: Establish a water management plan.
	Guards, Barriers, and Barricades: Ensure these are effective, in place, and maintained.
	Safety Devices: Ensure safety devices and interlocks have been tested and are in working condition.
	Energy Isolation: All possible energy sources have been identified and controlled per lock out – tag out – try out (LOTOTO).
	Combustible Materials Storage: Store combustible/flammable materials separately and safely.
Fire	Ventilation: Ensure adequate ventilation in working areas and that systems are functioning and maintained.
	Fire Detection, Alarm, and Suppression: Ensure fixed and mobile equipment has functional fire detection and suppression system.
	Evacuation Plan: Be prepared and know your emergency plan, egress, refuse chamber, self-rescuer, and muster point.
	Hot Work Permit: Obtain a permit and implement the associated controls before starting work.

High Risk Scope of Work Form

Document Reference:	Revision Number	Original Issue Date	Review Date
BGC-CORP-FORM-004	0	June 09, 2026	June 09, 2026

Project Name:	Design, Supply, Installation, Testing and Commissioning of Fire Detection and Fire Suppression Systems for Two Process Kilns
Site Location:	Process Plant
Risk Rating of SOW: (Based on Pre-Job Risk Assessment)	☒ High ☐ Very High (Check one)

Stakeholders	Name	Signature	Date
Requestor	Noel Sapembi		22 July 2026
Technical Representative	Melchi Mulaba		22 July 2026
Health and Safety Manager	 Click or tap here to enter text.		23/7/2026 Click here to enter a date.
Environmental Manager If applicable	Click or tap here to enter text.		Click here to enter a date.
Community Relations Manager If applicable	Click or tap here to enter text.		Click here to enter a date.
Department Manager	Noel Sapembi		22 July 2026
Contract Specialist	Click or tap here to enter text.		Click here to enter a date.

1. Project Overview	3
2. General Description of Work	3
3. Health and Safety Requirements	6
4. Environmental Requirements	8
5. Social Requirements	9
6. Certifications and Competencies	11
7. SOW Management	11
8. Appendix	12

A handwritten signature in black ink, appearing to be 'J. H. H.', is written over the page number.

1. PROJECT OVERVIEW

The goal is to provide complete fire detection and suppression system to protect kiln1, Kiln2 and diesel storage tank against fire, covering engineering, supply, installation, testing, and commissioning of a foam spray, and detection systems.

The objective of this project is to design, supply, install, test, commission, and hand over a complete fire detection and automatic fire suppression system for Process Kiln 1 and Process Kiln 2. The project aims to improve personnel safety, protect critical production assets, reduce fire-related operational risks, and minimize production downtime through the implementation of an integrated fire protection system compliant with international standards.

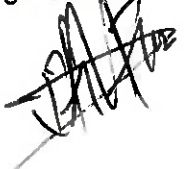
2. GENERAL DESCRIPTION OF WORK

2.1. DELIVERABLES (KPI'S)

Deliverable	Description	Expected Date
Engineering	Provide all engineering services required for the successful execution of the project, including: • Fire Risk Assessment. • Detailed engineering design. • Hydraulic calculations. • Fire suppression system design calculations. • General Arrangement (GA) drawings. • Piping and Instrumentation Diagrams (P&IDs). • Electrical and control schematics. • Cause and Effect Matrix. • Equipment datasheets. • Inspection and Test Plans (ITPs). • As-built documentation.	2026/08/30

Supply	Supply all equipment and materials necessary to install complete fire detection and suppression systems for both process kilns, including fire detection devices, suppression equipment, control panels, piping, valves, electrical equipment, fire-rated cabling, junction boxes, mounting hardware, and all ancillary components required for a fully operational system.	2026/08/30
Technical specifications	The fire protection system shall be designed, installed, tested, and commissioned in accordance with recognized international standards and good engineering practice. The installation will provide automatic fire detection, alarm annunciation, automatic fire suppression, emergency fuel isolation, and full integration with the existing PLC and SCADA systems. The design will incorporate fail-safe principles together with manual override capability for emergency operation.	2026/08/30
System Installation	The Contractor will perform all mechanical, electrical, instrumentation, and control installation activities required to deliver a complete operational fire protection system. The work includes equipment installation, piping fabrication and installation, electrical wiring, control panel installation, cable routing, system integration, equipment identification, and final inspection.	2026/08/30
System Testing & Commissioning	Testing and commissioning will include inspection of installed equipment, hydrostatic pressure testing where applicable, detector functional testing, suppression system testing, alarm verification, Cause and Effect testing, PLC and SCADA integration testing, emergency shutdown verification, Site Acceptance Testing (SAT), and final commissioning prior to handover.	2026/08/30

2.2. PROJECT LOCATION



Provide an address and describe the specific location of the scope of work.

Kibali Gold Mine: Process Plant - Recovery Section

2.3. EQUIPMENT AND TOOLS REQUIRED

Supplier to list all equipment and tools required to perform the Job.

Items supplied by Contractor

The Contractor will provide all labor, supervision, engineering services, specialist tools, materials, consumables, installation equipment, testing equipment, lifting accessories (where required), and temporary works necessary to complete the project safely and efficiently.

Items supplied by Barrick

- Site access
- Mobile crane (where available)
- Scaffolding
- Access to existing utilities and plant interfaces as required.

2.4. INSURANCE AND WARRANTY REQUIREMENTS

Provide list of applicable insurances or warranties.

Requirements to be identified by the Contract Specialist



The Contractor shall provide standard insurance coverage applicable to the scope of work and a minimum twelve (12) month warranty from the date of successful commissioning covering defects in workmanship and supplied equipment.

2.5. PROJECT RISK IDENTIFICATION

All project risks shall be identified within the Pre-Bid Risk Assessment taking into consideration all safety, environmental and community risks. Please attach the Pre-Bid Risk assessment to this document.

3. HEALTH AND SAFETY REQUIREMENTS

The Contractor shall apply all requirements established in Barrick's Health and Safety standards, as well as policies and procedures. The Contractor must consider all the requirements to prepare and submit a specific health and safety plan for the project using Barrick's Safe Work Plan form (please attach).

3.1. SPECIFIC SAFETY REQUIREMENTS

List the specific safety requirements associated with the job/work and all applicable procedures.

The Contractor will conduct a project-specific Pre-Bid Risk Assessment identifying hazards associated with working at height, hot work, electrical installations, lifting operations, confined process areas, and live plant interfaces. Appropriate mitigation measures, safe work procedures, and emergency response plans will be developed before work commences. ☐

- Compliance with Barrick Permit-to-Work requirements.
- Mandatory use of appropriate PPE.
- Barricading of work areas.
- Approved Hot Work Permits for all welding and cutting activities.
- Working at Height permits where applicable.
- Lock Out, Tag Out and Try Out (LOTOTO) for electrical and mechanical isolation.
- Good housekeeping throughout project execution.

3.2. HEALTH AND SAFETY PROCEDURES

List all applicable Health and Safety operational procedures.



The Contractor will comply with all applicable Barrick safety procedures including Permit-to-Work, LOTOTO, Working at Height, Hot Work, Hazard Identification and Risk Assessment, Toolbox Talks, Incident Reporting, and Emergency Response Procedures.

4. ENVIRONMENTAL REQUIREMENTS

The Contractor shall apply all the requirements established in Barrick's Environmental Guidelines for Contractors, comply with Barrick's Environmental Policy, and meet all other applicable environmental requirements, procedures or standards to present the specific environmental management plan for the project if applicable.

4.1. ENVIRONMENTAL SPECIFIC REQUIREMENTS

List the specific Environmental requirements associated with the job/work and all applicable procedures.

House Keeping to be done before and after the Job

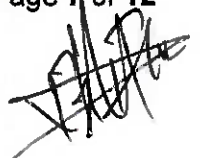
4.2. ENVIRONMENTAL PROCEDURES

List all applicable Environmental operational procedures.

For the development of this project, the Contractor must apply all the social requirements established in Barrick's social performance policy, with the objective to support the company's social commitment to sustainable development.

5. SOCIAL REQUIREMENTS

5.1. SOCIAL SPECIFIC REQUIREMENTS



List the specific social requirements associated with the job/work and all applicable procedures.

The Contractor will conduct all activities in accordance with Barrick's Social Performance Policy, ensuring respect for site rules, local employment requirements where applicable, and responsible engagement with all stakeholders.

5.2. SOCIAL PROCEDURES

List all applicable Social operational procedures.

Click or tap here to enter text.

A handwritten signature in black ink, appearing to be 'J. R. Smith', is written over the page number.

6. CERTIFICATIONS AND COMPETENCIES

Mark an X in the box next to all applicable certifications and competencies.

COMPETENCE	Applies	COMPETENCE	Applies
Fall From Heights	☒	Fire (Hot Work)	☒
Confined Space	☐	Hazardous Substances	☒
Stored Energy (LOTOTO)	☒	Excavations and Penetration (trenching)	☐
Lifting	☒	Working with High Voltage Lines	☐
Hazards Recognition/ Risk Assessment	☐	Mobile Equipment	☒
Blasting and Explosives	☐	Other:	☐

Other Applicable Competencies/Certifications

Click or tap here to enter text.

7. SOW MANAGEMENT

The following documents must be attached when submitting this form to the Contract Specialist:

- ☒ Pre-Bid Risk Assessment
- ☒ Reference Documents: Images, documents, drawings
- ☐ Other: Click or tap here to enter text.

8. APPENDIX

Images/drawings:

Drag and drop images from your files here...

DESIGN BASIS

Fuel: Diesel; Burners: 8; Operation: Automatic/Semi-automatic; Temperature range: 700–750°C; Continuous operation.

KILN SYSTEM

Carbon steel kiln shell (ASTM A36), refractory lining (ASTM C27), stainless steel anchors, burner ports, inspection doors.

DIESEL BURNER SYSTEM

8 diesel burners with atomizing system, ignition, flame scanner, control valves, turndown ratio $\geq 1:5$.

DIESEL STORAGE TANK

Horizontal steel tank (API 650), capacity 400 m³, level gauge, bund wall.

FUEL SUPPLY SYSTEM

steel piping (ASME B31.3), pumps (duty/standby), duplex filters, valves, return lines.

ELECTRICAL SYSTEM

MCC panels, cabling (IEC), earthing system, safe routing.

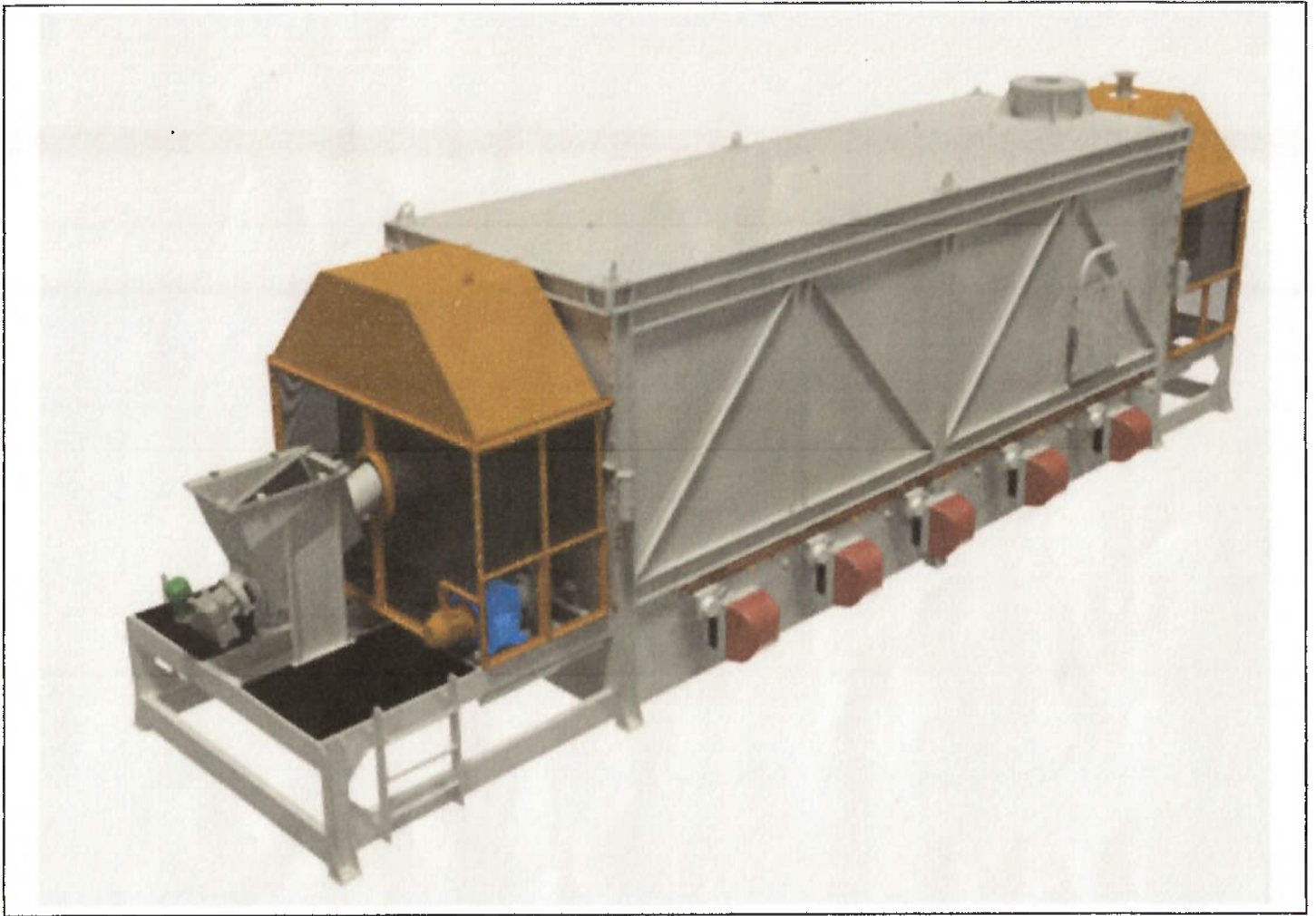
INSTRUMENTATION & CONTROL

PLC, thermocouples, HMI.

SAFETY SYSTEMS

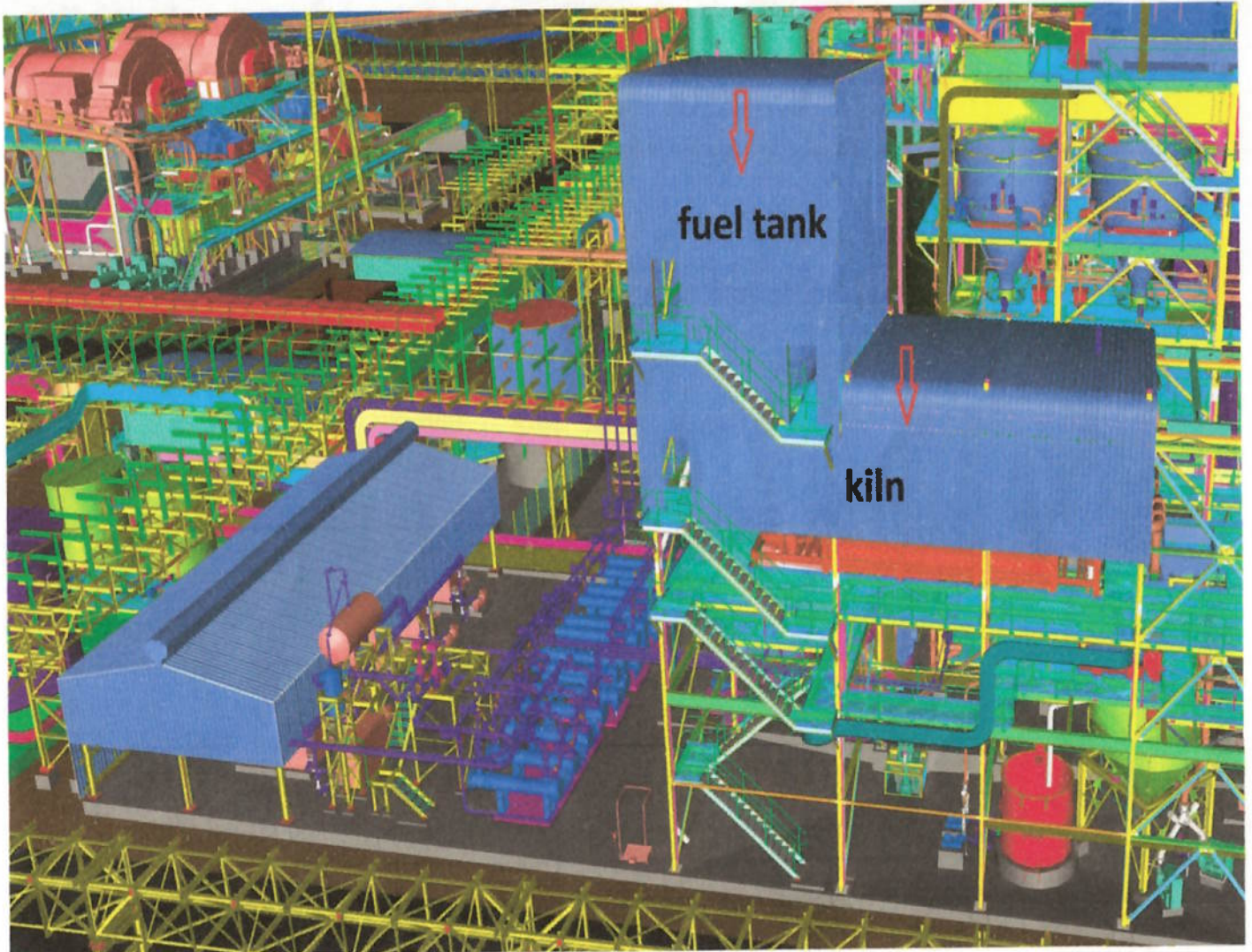
Flame failure trip, alarms, temperature protection.





[Handwritten signature]

Images/drawings:
Drag and drop images from your files here...



A handwritten signature in black ink, located at the bottom right of the page. The signature is stylized and appears to be written in a cursive or semi-cursive script.