

**Technical assignment for electrical installation and commissioning works of electrical equipment
of the "Grinding" project JSC "RMG GROUP"**

Approved:

Project Manager
«Beqtaqari grinding»

JCS «RMG Group»

 T. Mustafaev

«20» 01 2025 г.

Affirmative:

Managing Director for production
projects

JSC RMG Copper

 A. Nemokaev

«__» ____ 2025 г.

Tbilisi 2025

1. GENERAL

1	Basis for work	Project «Grinding Beqtaqary»
2	Type of work	New construction
3	Contracting authority, legal and postal address	RMG Auramine JSC, Kazreti village, Bolnisi district, Georgia
4	Name of the unit	Grinding unit
5	Project code	P23/5 Grinding Beqtaqary
6	Terms of service provision	February – April 2025 r.
General requirements for electrical installation work:		
7	The work must be carried out in accordance with the assignment issued by the Client, according to the plans, diagrams and PID diagrams, under the supervision of the Energy Engineer of the Production Projects Department of RMG Auramine JSC	
	Power and control cables installation and connection	According to appendix №1
	Installation of 10kV MV cable joints	All installation works are to be made with certified tools. Cable made of XLPE insulation. PKVT type cable joints (for single and three phase cables)
	Installation of the 10/0.4kV transformer	1600kVA; Mounting on rollers with guide rails
	Installation and erection of the MCC 400V	Connections of all columns, including secondary and control circuits. After assembly, in addition to the test reports, transfer to the Customer the protocols for pulling all connections of the busbars
	Installation and erection of the UPS AC (including distribution board)	ABB Powerline DPA 20kVA with battery assembly
	Installation and erection of the MV Switchgear	4 columns of the ABB Unigear ZS1.
	Assistance with the erection of MV VFD	WEG MVW3000: aligning and installation; erection with the supervision of WEG Vendor; connecting all main and auxiliary circuits
	Electrical heat tracing system	Assembly of the heat tracing distribution board; installation of the marshalling and junction boxes: mounting of the heating cables including connecting and ending kits
General requirements for individual tests and pre-commissioning:		
	MV Switchgear	Carry out test according to Chapter 1.8 Electrical installation Code Code and the requirements of the manufacturer. Transfer test reports to the Customer. Conduct tests under the supervision of the Power Engineer of the Production Projects Department of RMG Auramine JSC

	MV cables and cable joints	Carry out tests of cables with ultra-low frequency voltage after laying and installation of joints. Transfer test reports to the Customer. Carry out tests under the supervision of the Power Engineer of the Production Projects Department of RMG Auramine JSC
	Transformer 10/0,4kV, 1600kVA	Conduct tests in accordance with Chapter 1.8 of the Electrical Installation Code and the requirements of the manufacturer. Transfer test reports to the Customer. Conduct tests under the supervision of the Power Engineer of the Production Projects Department of RMG Auramine JSC
	MCC 400V	<p>Measure the insulation resistance of the primary and secondary circuits, measure the transition resistance. Transfer the test reports to the Customer. Conduct the tests under the supervision of the Power Engineer of the Production Projects Department of RMG Auramine JSC. Integrate the MCC feeders into the DCS, the feeder types and quantity are specified in Appendix No. 1 (VFD, DOL DCS, non DCS DOL). Organize the issuance of all necessary data to the upper level, calibration of the VFD speed factors.</p> <p>Set up and check the protection of the feeders of 10/0.4 kV Transformers, MV VFD and MV motor feeders, 10kV Incomer cubicle and on the MCC 400V. Transfer the test reports to the Customer. Conduct the tests under the supervision of the Power Engineer of the Production Projects Department of RMG Auramine JSC.</p>

2. WARRANTY TERMS

The warranty period is not less than 12 months from the date of completion of acceptance tests and commissioning.

3. IMPLEMENTATION TIMELINE

From 15.02.2025 to 02.05.2025

4. ADDITIONAL REQUIREMENTS

3.1. All construction and installation works and pre-commissioning works shall be carried out in accordance with the national standards and the current rules of Georgia on labour protection during operation of electrical installations;

3.2. The contractor undertakes to perform works in special clothing, using protective helmets, serviceable hand, electric and pneumatic tools;

3.3. In case of additional requests, addition of the amount of equipment at the initiative of the operating unit, such works shall be agreed with the management of JSC RMG Auramine and formalized by an additional agreement while maintaining the unit prices of the original invoice;

5. SUBCONTRACTORS

Not allowed

6. PAYMENT TERMS

It is necessary to coordinate with the purchasing department and the production projects department of RMG Auramine JSC.

Short list for technical commercial offer:

Item	Quantity
Construction	
Installation of the cable trays with covers (including supports)	- 200*100*3 – 57m - 600*100*3 – 75m - 400*100*3 – 75m
Installation of the power and control cables according to the App.№1	
Installation of 10kV MV cable joints	24
Installation of the 10/0.4kV transformer	1
Installation and erection of the MCC 400V	1
Installation and erection of the UPS AC (including distribution board)	1

Installation and erection of the MV Switchgear	1
Assistance with the erection of MV VFD	1
Electrical heat tracing system	- 50 meters self-regulating heating cable with end seal and input kit
Pre-commissioning	
MV cables and cable joints	24
Transformer 10/0,4кВ, 1600кВА	1
MCC 400V	1
MV Switchgear	1

Developed by:

Electrical Engineer



V. Kostylev

APPENDIX

App. №1

EQUIPMENT TAG	Equipment Name	POWER, kW Installed	Type of start	Cable	Length
100-ST-001	Crushed Ore Storage dust collector	45	DCS DOL	4*70	130
100-CH-007	Crushed Ore Storage air lock	5	DCS DOL	4*2,5	130
100-AF-001	Apron Feeder 1 / Ленточный питатель	10	VFD	4*2,5	130
100-AF-002	Apron Feeder 2 / Ленточный питатель	10	VFD	4*2,5	120
100-AF-003	Apron Feeder 3 / Ленточный питатель	10	VFD	4*2,5	120
100-CV-003	Conveyor 3 / Спускной желоб. Ленточный конвейер	5,5	VFD	4*2,5	120
100-SP-002	Portable Sump Pump Stockpile Area / Портативный дренажный насос участка складирования	22	NO DCS DOL	3*16	
200-CV-001	CONVEYOR / Ленточный конвейер	22	VFD	3*16	150

200-CV-002	CONVEYOR / Ленточный конвейер	5,5	VFD	4*2,5	120
200-CV-003	CONVEYOR / Ленточный конвейер	5,5	VFD	4*2,5	120
200-MA-001	SELF CLEANING MAGNET / Самоочищающийся магнит	10	NO DCS DOL	4*2,5	100
200-SM-001	SAG MILL MCC	30	Feeder	4*16	120
200-SM-001	SAG MILL VFD	30	Feeder	4*16	100
200-LN-001	SAG MILL LINER HANDLER / Футеровочная машина мельницы полусамоизмельчения	30	Feeder	4*16	110
200-PP-001	CONCENTRATE PUMP / Насос концентрата	110	VFD	3*120	110
200-PP-002	CONCENTRATE PUMP / Насос концентрата	110	VFD	3*120	110
200-PP-003	CYCLONE FEED PUMP / Питающий насос циклона	90	VFD	3*120	110
200-PP-004	CYCLONE FEED PUMP / Питающий насос циклона	90	VFD	3*120	110
200-BM-001	BALL MILL MCC / Шаровая мельница	30	Feeder	4*16	120
200-CN-001	GRINDING AREA OVERHEAD CRANE / Мостовой кран участка измельчения г/л 25 т	60,4	Feeder	3*16+1*7 0	130
200-SP-001	SUMP PUMP GRINDING AREA / Дренажный насос участка измельчения	22	DCS DOL	3*16	120
200-SP-002	SUMP PUMP GRINDING AREA / Дренажный насос участка измельчения	22	DCS DOL	3*16	110
200-SP-003	SUMP PUMP GRINDING AREA / Дренажный насос участка измельчения	22	DCS DOL	3*16	110

200-SP-004	SUMP PUMP GRINDING AREA / Дренажный насос участка измельчения	22	DCS DOL	3*16	110
UPS		20	Feeder	4*16	10
Gland seal water pump station		30	Feeder	4*16	50
incomer				3*(1*300)	225
Incomer N wire				2*(1*300)	50
SM1-MCC-MCB	Incomer	80	Feeder	4*16	154
BM1-MCC-MCB	Incomer	80	Feeder	4*16	140
SAG mill motor RTD	RTD			10*1	160
BALL mill motor RTD	RTD			10*1	140
SAG/BALL mill control	Control cable			7*1	100
SAG/BALL mill control	Control cable			19*2,5	100