


**Technical assignment for the electrical installation and commissioning works of the electrical equipment of the 3d section flotation of the Madneuli concentrate plant  
JCS «RMG GROUP»**

**Affirmative:**

Managing Director for production  
projects

JCS «RMG Group»

 A. Nemokaev  
«  »    2025 г.

Tbilisi 2025

## 1. GENERAL

1	Basis for work	3d section flotation Madneuli plant upgrade
2	Type of work	New construction
3	Contracting authority, legal and postal address	RMG Copper JCS, Kazreti village, Bolnisi district, Georgia
4	Name of the unit	Flotation
5	Project code	P24-17
6	Terms of the service provision	June 2025
<b>General requirements for the electrical installation works:</b>		
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 Electrical Engineer of the production projects department of RMG Copper JSC	
	Power and control cables installation and connection	According to the appendix 1
	Installation and erection of the MCC 400V	Appendix 2. Erection of the main and auxiliary circuits, network cables connection. Check of the all withdrawn feeders. Tightening torques
	Installation of the UPS AC distribution board	Assembly of a panel for 10 circuit breakers
	Cable trays system installation	All cable routes, with the exception of flotation machines and consumers located near flotation machines, must be made in the form of cable shelves (made of painted steel angles). Cable routes along the perimeter of process equipment must be made using cable shelves with trays (with the installation of tray covers after completion of work. Approximate length of cable routes without trays - 2 shelves 250 meters long. Approximate length of cable routes with trays - 2 shelves 150 meters long.
	Upgrade of the 400V 4000A	Appendix 3. Remove electrical and mechanical locks for simultaneous switching on of all three switches. Make an AVR on a voltage relay with an AVR input/output selector. It is necessary to redesign the design using flexible copper connections. Add current transformers. Make phasing after completion of the work.

Installation and erection of the 4 (standalone) VFDs 350kVA	Appendix 4
<b>General requirements for the individual tests and pre-commissioning:</b>	
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 Power Engineer of the production projects department of RMG Copper JSC	
MCC 400V	Insulation and transient resistance testing. Input switch testing.
DOL smart feeders and VFDs DCS integration	The quantity is indicated in Appendix 1. Speed, torque scaling, start/stop from DCS. Organize all required parameters transfer to DCS

## 2. TERMS OF THE WARRANTY PERIOD

The warranty period is at least 12 months from the date of completion of acceptance tests and commissioning.

## 3. ADDITIONAL REQUIREMENTS

3.1 All construction and pre-commissioning works shall be carried out in accordance with the NTD and the current rules of Georgia on labour protection during the 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, these works shall be agreed with the management of JSC RMG Copper and formalized by an additional agreement while maintaining the unit prices of the original invoice;

## 4. INVOLVEMENT OF SUBCONTRACTORS

Not allowed

## 5. PAYMENT TERMS

Must be agreed with the purchasing department and the production projects department of RMG Copper JSC

## 6. APPENDIX

Appendix 1

EQUIPMENT TAG	Equipment Name	POWER, kW Installed	Type of start	Cable cross section	Planned length
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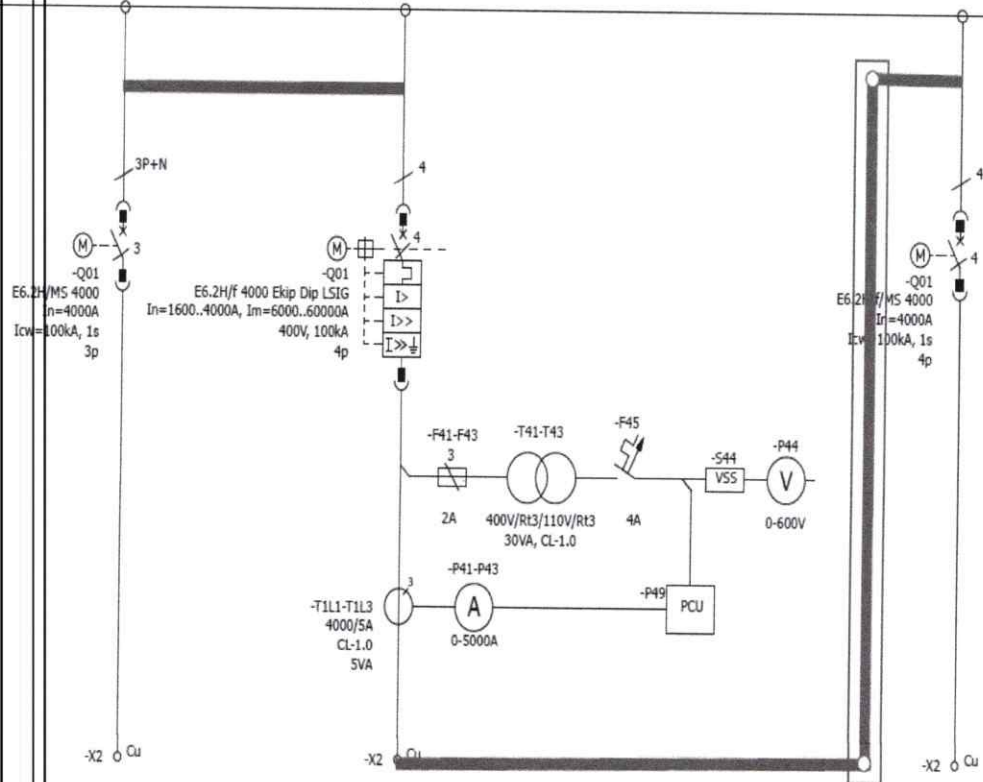


300-AG-001	AGITATOR FOR BULK CONDITIONING TANK	22	VFD	4*10	60
300-FC-001	BULK ROUGHER CELL 1	45	DCS DOL	4*16	60
300-FC-002	BULK ROUGHER CELL 2	45	DCS DOL	4*16	55
300-FC-003	BULK ROUGHER CELL 3	45	DCS DOL	4*16	50
300-FC-004	BULK ROUGHER CELL 4	45	DCS DOL	4*16	45
300-FC-005	BULK ROUGHER CELL 5	45	DCS DOL	4*16	40
300-FC-006	BULK SCAVENGER CELL 1	45	DCS DOL	4*16	35
300-FC-007	BULK SCAVENGER CELL 2	45	DCS DOL	4*16	30
300-PP-009	BULK ROUGHER CONCENTRATE PUMP	22	VFD	4*10	50
300-PP-010	BULK ROUGHER CONCENTRATE PUMP	22	VFD	4*10	50
300-PP-007	BULK SCAVENGER CONCENTRATE PUMP	15	VFD	4*6	60
300-PP-008	BULK SCAVENGER CONCENTRATE PUMP	15	VFD	4*6	60
300-PP-003	SCAVENGER TAILINGS PUMP	315	Feed er	$3*(1*300)+2*(3*150)$	15 (1*300) )+ 80 (3*150) )
300-PP-004	SCAVENGER TAILINGS PUMP	315	Feed er	$3*(1*300)+2*(3*150)$	15 (1*300) )+ 80 (3*150) )
300-PP-005	SCAVENGER TAILINGS PUMP	315	Feed er	$3*(1*300)+2*(3*150)$	15 (1*300) )+ 80 (3*150) )
300-PP-006	SCAVENGER TAILINGS PUMP	315	Feed er	$3*(1*300)+2*(3*150)$	15 (1*300) )+ 80 (3*150) )
300-SP-001	SUMP PUMP FLOTATION AREA	15	NO DCS DOL	4*6	70
300-SP-002	SUMP PUMP FLOTATION AREA	15	NO DCS DOL	4*6	50
Incomer	INCOMER FROM TR003	1000	Feed er	$7*(1*300)$	1400
UPS POWER SUPPLY	INCOMER FOR THE UPS DISTRIBUTION BOARD	5	Feed er	4*2.5	200
	Gland seal water pump station	55	VFD	4*16	70

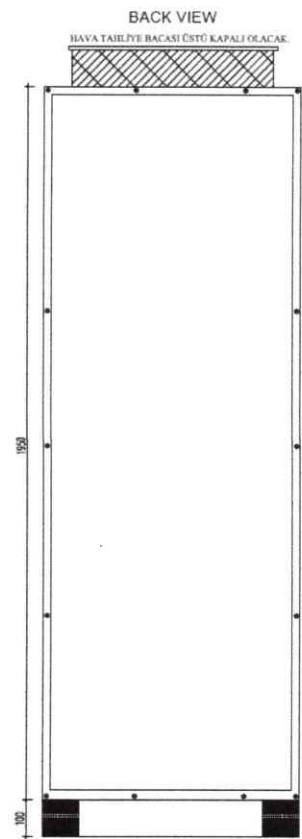
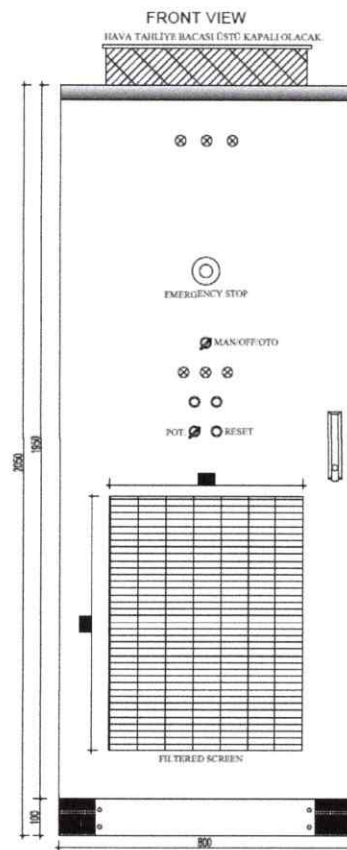
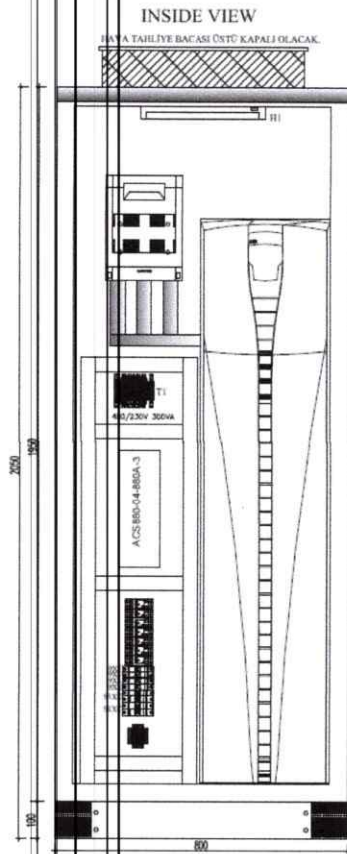
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The technical drawings illustrate the dimensions and layout of a 3640mm wide switchgear. The **FRONT VIEW** shows a unit divided into three main sections (LINE NO. 1, LINE NO. 2, LINE NO. 3) with a central **BUSBAR** and **TOGGLE CIRCULAR** components. The total width is 3640.0 mm. The **SIDE VIEW** shows the unit's depth, with a total width of 652 mm and a depth of 600 mm. The **FLOOR PLAN** shows the unit's footprint, with a total width of 3640 mm and a depth of 600 mm. The drawings also include a **Roof Plan** and a **Side View** of the unit's profile.

4000A, 400V 50Hz, 4P, 80KA for 1 sec AC System



## Appendix 4



**Developed by:**

Electrical Engineer

V. Kostylev