

Short description of the subject matter of the contract

“Head hardening system for railway rails – HSM Dąbrowa Górnicza”

concerns the project entitled “Reliable and durable in operation, modern railway rails with a length of 120 m, characterized by high mechanical properties, high resistance to cracking and a modified microstructure of the material due to the modernization of the cooling process after rolling”. (project no. POIR.01.01.01-00-0438/17), co-financed from the funds of the European Regional Development Fund and as part of the Smart Growth Operational Program 2014-2020, sub-measure 1.1.1 “Industrial research and development work carried out by enterprises”.

This specification is attached as appendix no 7 to the request for quotation no
1/0438/2021 of 19.02.2021

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1. GENERAL INTRODUCTION

ArcelorMittal Poland S.A. (AMP), as part of its project Reliable and durable in operation, modern railway rails with a length of 120 m, characterized by high mechanical properties, high resistance to cracking and a modified microstructure of the material due to the modernization of the cooling process after rolling” is interested in selecting a supplier for the **design, delivery and commissioning of the rail head hardening system** in the scope of:

- Project execution (schedule, deliveries, resources)
- Manufacturing, supplies etc.
- Deliveries acc. to DDP INCOTERMS 2020
- Commissioning and training
- Ramp up
- Elaboration of documentation (BE doc.)

Detailed scope of work and deliveries being the subject of the Inquiry No. 1/0438/2021 is presented below in this specification.

ArcelorMittal Poland S.A. (AMP) operates in various branches in Poland, mainly concentrating steel production in Krakow and in Dąbrowa Górnicza and other important production units that are responsible for the production of various types of steel products in Poland.

Due to the Company's obligation to apply the competition principle, this technical specification constitutes a detailed description of the subject matter of the contract allowing for the preparation of tenders by the Bidders.

This specification has been drawn up with the utmost care in order to provide a full, unambiguous and exhaustive description of the subject matter of the contract so as to enable economic operators to determine all their obligations and risks and to calculate the price and other elements of the offer in a responsible way.

All of the purchases, services and supplies which are the subject of this enquiry must be incorporated and cooperate with the existing infrastructure and equipment in the Company and also must meet the same technological standards. Therefore, the need to maintain the same technological conditions and the need to maintain the unification of equipment resulting from the expansion of the existing infrastructure have determined the provisions of this specification. The provisions applied are justified by the need to ensure the smooth running of the project. The provisions indicated do not impose an obligation on Economic Operators to apply the solutions indicated but only inform about minimal parameters and standards. Using certain types of solutions is not obligatory but only exemplary. The indications in relation to the expected technical parameters, as well as indications concerning specific types and manufacturers' names are of a general nature, referring only to sample indications of equivalent products and do not constitute the only acceptable solution. On this basis, the contracting authority shall accept equivalent solutions.

It is expected that the tenderers will submit an offer taking into account the requirements of this Technical Specification.

The offer must be complete in all respects and must include all components / devices necessary to achieve a sound design, operation and maintenance of the installation. The tenderer must read this specification and make sure that the installation is technically feasible and assume full responsibility for the guaranteed operation of the supplied installation and equipment in terms of performance, efficiency, smooth and reliable operation.

The Bidder will read the requirements contained in this documentation and take full responsibility for the guaranteed level of operation of the installation made in accordance with the technical arrangements, scope and documentation provided by him, with regard to the logic of correctness of the calculations made and functionality in accordance with good engineering practice and the latest technical knowledge.

The Contractor is required to be familiar with and respect Investor's standards, in particular H&S standards and performance standards (Investor's standards are available at www.arcelormittal.com/poland, tab "FOR CONTRACTORS"). Furthermore, Investor's standards are

enclosed with the Contractor's Safety Manual and will be provided to the Contractor by the Investment Purchasing Office. The Contractor is obliged to respect and follow them at all times on a regular basis at all stages of the investment:

Contractor is obliged to respect and follow them at all times on a regular basis at all stages of the investment:

- ST 000 H&S Policy
- ST 001 Insulation
- ST 002 CONFINE SPACE
- ST 003 WORK AT HEIGHT
- ST 005 Audits
- ST 006 VEHICLES AND ROAD TRAFFIC
- ST 007 OVERHEAD CRANES AND LIFING EQUIPMENT
- ST 008 Contractor
- ST 009 Alarm
- ST 010 Safety indicators
- ST 011 Incident/Accident investigation
- ST 012 WORK AT GAZ HAZARDOUS AREA
- ST 014 HIRA (ang. Hazard Identification and Risk Assessment)
- ST 015 Golden Rules
- ST 018 Loading protection
- ST 201 H&S specification
- ST 301 Mobile phones

ATTENTION: In the case of different requirements in subsequent standards and / or standards, consistent with those mentioned above, more stringent standards and / or standards should be applied (more restrictive)!

2. The data for the designing and developing technical offer

2.1. TOPs and utilities parameters

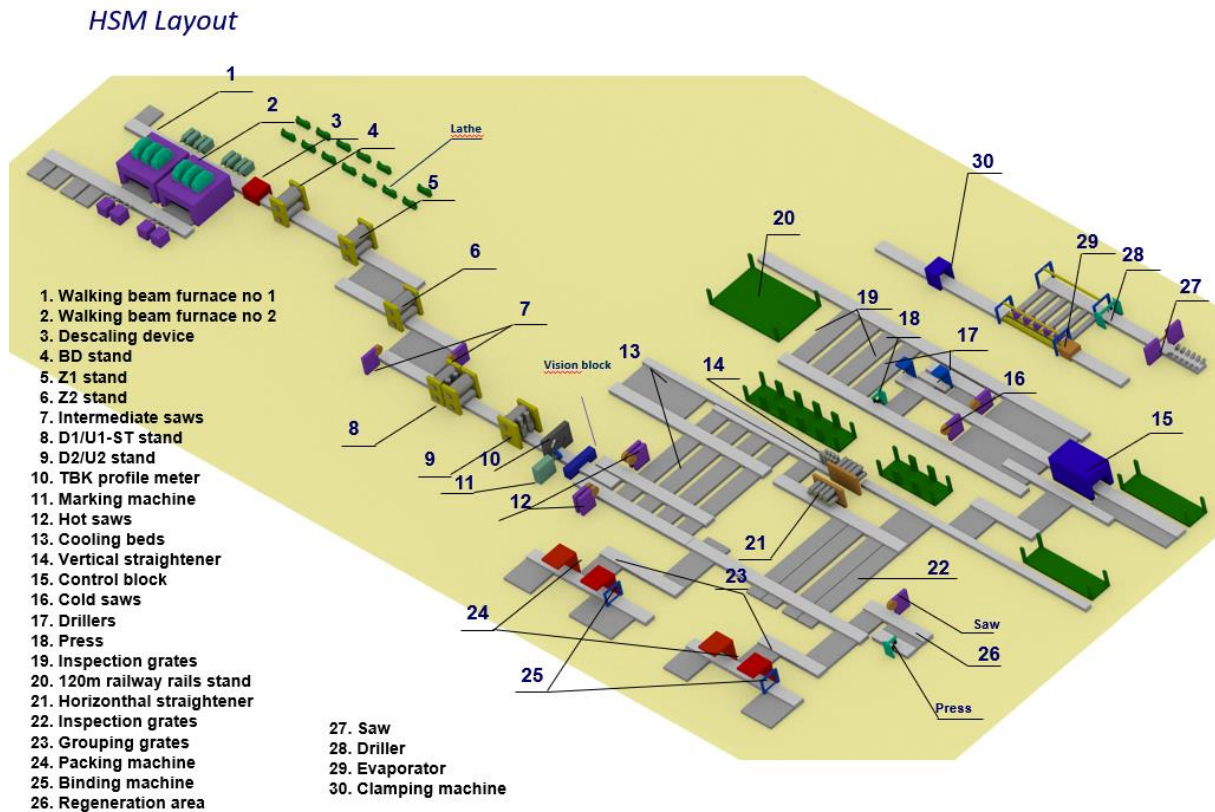
TOPs and utilities parameters are provided in the documents attached to the RFQ. If TOPs are not defined at this stage, they will be defined during tender negotiations.

2.2. Description of the current state

Currently there is no head hardening system located in Dąbrowa Górnicza. The requirement of this specification is to install completely new line in existing heavy section mill – basic assumption is to use a rolling mill heat without any additional induction heater.

2.3. Project assumptions

Delivery of head hardening system fitted into existing Heavy Section Mill layout.



Drawing no 1. HSM Layout

2.4. Expected way of operation of new system

Head hardening system must be fully automated with additional media parameters measurement. Any deviation in input parameters or system failure which don't allow to start head hardening process must be clearly stated to an operator.

Quality control system of the head hardening system must inform the operator about any process deviations which have negative impact on quality/productivity.

3. Bidders' scope of work

The Contractor must ensure H&S supervision over realized works on site. The Contractor or Contractor's representative must be present during a daily meeting during execution phase of the project and on every request of the AMP.

3.1. The scope of work and deliveries should include the following elements

1. Performance of current state analysis including safety system.

2. Execution of project and technical documentation of the system in all necessary scopes (technical documentation for review and approval by the ArcelorMittal team). Documentation for building and environmental permissions acc. to Polish law must be delivered in 1,5 month from the contract signature date.

Approval of the technical documentation by ArcelorMittal doesn't release the Bidder from responsibility of the proper functioning of the system.

3. As-built documentation for the system, installation etc. Delivered documentation must include protocols (e.g. electrical measurements), settings of security system if needed, manuals for devices installed in the system, electrical and network diagrams, construction drawings, new area layout, order numbers and manufacturers of the installed parts, operating instruction for maintenance etc. As-built documentation must be in Polish.
4. Design BE, commissioning of the head hardening system for railway rails.
5. Basic engineering permits - the Bidder must provide technical documentation - basic engineering for the building and environmental permissions up to 1,5 month since contract signature. For instance:
 - a. Basic engineering for the whole investment
 - b. List of loads together with place of their touchdowns
 - c. Technological project
 - d. Technical specifications of equipment and installations including maintenance
 - e. Routes of pipelines and other networks from equipment or tanks to TOP points - single line diagram
 - f. Description of the technology, working conditions, equipment, installed power, power consumption during operation
 - g. Basic (single-line) power scheme of the main equipment
6. Performance all automation works – programming.
7. Automation system design with ramp up.
8. Delivery of all required cables e.g. power supply, ethernet. ArcelorMittal will show the place where is a possibility to connect required cables.
9. Basic and auxiliary materials necessary to complete the scope of the project must be provided by the Bidder.
10. Delivery of system of main media (to start head harden process) preparation. Delivery of rail manipulator to pick-up rails from central roller table. Delivery of auxiliary mechanical equipment. Distribution and technological interconnecting piping deliveries. Additional fencing. System first filling.
11. Delivery of spare parts list for one year operation.
12. Tilter delivery.
13. Bidder must provide training for operators, maintenance and automation engineers. After the warranty period, ArcelorMittal will be fully responsible for the service of new devices. Additional training for automation engineers before HSM stoppage.
14. Commissioning of the head hardening system. The Bidder must provide the team and resources in such a quantity to allow timely putting the HH system into operation. The Bidder in his technical offer will state how long it will take to start the normal head harden railway rails production.

15. Bidder's representative must be present on every technical meeting during project execution period of time or on AMP request.

3.2. Plan of handover and tests

1. Approval of the technical documentation by ArcelorMittal up to 4 weeks after delivery documentation from the Bidder.
2. Delivery of all equipment and materials acc. to the Purchase Order (min 14 days before assembly on site).
3. Checking of installed equipment and quality of performed works:
 - a. Checking quantity of installed equipment specified in the "Technical Specification" and approved the technical offer.
 - b. Checking quality of performer work specified in the "Technical Specification" and approved the technical offer.
 - c. Signing of the protocol confirming the scope and quality of performed work by the installation company.

4. "Cold" tests /without material/

- a. Checking functionality of all installed equipment.
- b. Checking the correctness of safety system operation – adjustments and control of all protections completed with protocols.
- c. Functional and voltage tests of electrical systems
- d. Pressure and leak-proof tests of hydraulic systems and ventilation

Note: Successful completion of cold tests will be base for signature of so-called "commissioning" protocol and starting hot tests.

5. Hot tests /with material/:

- a. Hot tests will be performed by ArcelorMittal under the supervision of the Bidder.
- b. Successful completion of the hot tests, delivery of whole required project documentation in Polish and perform of required training will be base for signing of the Final Acceptance Protocol.
- c. Time to remove the significant failure (TBD) – max 2 hours.
- d. Time to remove the non-significant failure (TBD) – max 4 hours.

6. Drawings and documents

1. List of all elements and parts used for project execution
2. List of necessary spare parts
3. Recommendations regarding periodical inspections and maintenance preventive activities, manuals – delivered documentation in Polish.
4. As-built documentation which will include:
 - Electrical diagram
 - Network diagram
 - Cable trays
 - Custom made parts – execution drawings
 - Safety analyze protocol
 - CE declaration for new head hardening line

Documentation must be supplied in quantities: 3 x hardcopy, 3 x electronic and editable version. It is required to provide source codes and backup copies of software made for

this project. This applies to the software of drivers, drives and visualization systems, as well as other devices if were used in the system.

7. Software

Software not protected by reading and editing.

4. Time of work completion

1. Execution of works specified in this technical specification will take place in April 2023.
2. The initial schedule will be attached to the offer, including specific timeframes within which the Bidder shall submit to the Investor / execute technical assumptions for discussions, drawings, diagrams, elements of the system, software, assembly, integration, tests, commissioning etc.
Assumptions to the erection schedule:
 - a. Installation: April 2023
3. The schedule will be prepared after mutual agreement prior to contract conclusion. The schedule will be guaranteed by the Bidder and will be a part of the commercial provisions indicated in the Commercial Offer.

5. Guarantee and warranty of delivery and execution quality

1. The Bidder shall guarantee high quality of works and of all specific and collective elements of the system. The bidder shall also guarantee high quality of systems/installations executed in accordance with his specification/design.
2. Required guarantee period – 20 months from signature of Final Acceptance Protocol.
3. Reaction time for an failure report (technical contact or VPN connection) up to 24h; in range 24/7
4. Removal of failure in the event of fault of the Bidder during hot tests: see point 3.2.5
5. The required service availability in Polish and the possibility of reporting the defect by e-mail
6. The Bidder should attach to the technical offer Responsibility Matrix for maintenance team for guarantee period.
7. The Bidder should attach to the technical offer failure notification procedure required service intervention.
8. The operational warranty shall include all elements of the system, including IT infrastructure, dedicated devices, software, electrical installations, etc. The fine for noncompliance with the warranty terms will be agreed upon in the commercial part during negotiations
9. The entire system compliant with the offer scope will be free of defects resulting from noncompliance with standards, good engineering practices, or from negligence during documentation execution. The bidder will be responsible for carrying out repairs and/or replacement of the faulty elements without additional charges.

6. Quality, workmanship, tests and control

1. Chosen and specified materials and devices must be of high quality, properly chosen for its purpose and compliant with practices and standards included in the requirement of this specification. All specified components used in later stages of works are subject to later inspections (checking) unless this obligation was withdrawn pursuant to the written statement submitted by the purchaser.
2. The purchaser reserves the right to re-inspect (by himself or by authorized parties) delivered data and documents. In the event of claims in reference to studies, documents or works – implementation of changes or improvements in works in accordance with presented remarks may be demanded from the Bidder

7. Safety of work and installation executed based on the scope

All delivered data (in view of studies, drawings and specifications, lists and technologies of workmanship) are subject to risk analysis of the installation. The analysis will be accessible to the staff of the purchaser or to the persons authorized by the purchaser to safely carry out works foreseen in the detailed engineering, to have access to the equipment in case of carried out maintenance works or during regular works. The offer should include all safety elements normally used in such cases. The offer should also include the HAZOP study.

8. Price

Price should be given for whole scope of work as detailed as possible. All elements should be divided into groups and described with a short identification. Price part of the offer should be executed based on the instruction delivered with RFQ or according to guidelines from Purchase Department.

9. Contact data

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