

Approved:
Directorate Member Chief Engineer


D. Danulescu

16 11 2021

**Technical Theme for catalysts unloading/loading
from Propylene Block from the technological objectives of
PETROTEL-LUKOIL SA**

1. Beneficiary: PETROTEL-LUKOIL SA Ploiesti, Romania
2. Scope: Unloading and Loading Catalysts from reactors 09-GR1 and 09-GR2 (Block Propylene).
The period to provide a team is between **20.12.2021 to 20.01.2022**.
3. Objectives: PETROTEL-LUKOIL S.A. – FG-CC (Block Propylene)
4. Deadline for submitting Technical and Commercial Offer: 30 days from the announcement of the auction
5. Initial data: Activities name:
 - 5.1. Diagram in use are detailed in **Annex No. 1**;

The estimative diagrams proposed will be subsequently detailed, for bidding, the same diagrams and volumes as in the diagrams in use have to be considered;
6. Main requirements:
 - 6.1. There shall be stated the minimum period for mobilization for which, the Beneficiary has to make the notification;
 - 6.2. The Reactors shall be gravitationally unloaded, or by vacuuming, according to the guidelines detailed in **Annex No. 1**;

- 6.3. Reactors shall be loaded according to the Specifications Catalysts Suppliers;
- 6.4. In the case of operating within inert atmosphere (Nitrogen environment), there should be indicated in the technical offer the norms and levels of safe from the point of view of working environment, and method of determination;
- 6.5. Diagrams will be presented for each step of the unloading/loading operations, according to their duration, individually for each reactor;
- 6.6. During the unloading / loading operations it should be ensured the avoidance of catalyst dust formation and the work area should be kept clean;
- 6.7. The basket / tray type distributors will be cleaned by any deposits;
- 6.8. There will be cleaned the baskets or supporting screens on effluent outlet vacuum and brushing headers so as the grids surface should be 100% free, non plugged inclusively below it, wheter identifying materials remaining in the outlet conections (catalyst balls);
- 6.9. All the conections will be cleaned and vacuumed, others than the discharging ones (instrumentation outlets, etc);
- 6.10. Provider, depending on the configuration of working areas, will make available the necessary including curtains / screens or shelters rain – proof, wind proof, special lighting, if necessary;
- 6.11. In the technical offer it should be specified the necessary of utilities (air, water, nitrogen), their quality, quantity and necessary parameters (pressure, temperature);
- 6.12. The contractor will supply the necessary inter-connecting materials for the utilities necessary between the points available to each location and their equipment (water hoses, nitrogen hoses, electrical cables);

- 6.13. The necessary logistics should be ensured for catalyst unloading and loading, including crane, forklift, with authorized operators;
- 6.14. The contractor will provide the sources of light both inside and outside the plants, according to its needs. The sources of light will be adequate for their area of use;
- 6.15. To be indicated the necessary equipment (to be mobilized), gauges and estimated placement plans. It is recommended the territory assessment prior to offer submission;
- 6.16. All operations will be registered with photos, videos and daily activity reports;
- 6.17. After unloading, prior to loading and after loading completion the reactors should be checked (and cleaned, where the case), and the approval for the cleanliness state after each stage will be given only by the person authorized by PLK;
- 6.18. All the vessels / reactors should be clean inside by any foreign materials or pieces, including feed distributors, baskets sieves on the outlet connections; if requested, for providing the necessary state of cleanness, there should be disassembled the outlet baskets and supporting sieves, cleaning the areas beneath, and assembled again, providing necessary sealing from the vessel;
- 6.19. Inside the technical offer there should be specified the number of people designated/shift and their working hours;
- 6.20. Inside the commercial offer there should be indicated the labour costs of person/hour, the "day/night" shift, Saturday-Sunday programme, if the case, or 24 hours programme;
- 6.21. Provider will notify immediately the personnel responsible of PLK in the case of having deviations from scheduled diagram and / or quotations previously foreseen; the Decision for continuing operations and also meaning of finding solutions should be given by PLK responsible

personnel;

- 6.22. Provider will submit, 48 hours maximum after completing all the works, the diagrams achieved (as-is), and within maximum 5 working days the Final Report of unloading / loading activity, chronologically mentioning all the stages of activities provided; these documents should be approved by Beneficiary, and represent the confirmation of completing all the works assigned by Contract;
- 6.23. Provider will make available the self sticking labels with the dimensions of minimum 150 x 150 mm containing the minimum identification data, according to the desing in **Annex No. 2**;
- 6.24. Provider shall supply the necessary polyethylene bags and polypropylene band with the purpose of supporting each pallet;
- 6.25. Provider shall supply the necessary containers for sampling the catalyst unloaded; special containers shall be used, of 0,5 – 1,0 litres as adecquated boxes or drums.

7. Main Commercial Requirements:

- 7.1. Provider shall specify in the Commercial Bid:
- costs / tarriffs related to eac type of operation included in the Basic Package (reported to the phisical MU, for example per m³, per tonn, per piece, per hour, etc);
 - total cost coresponding to the activities contained by the Basic Package;
 - tarriff man / hour or per MU for the special operations not included in the Basic Offer or in the case of other pending time as the responsibility of PLK;
 - the Bid shall include the following unexpected expenses amounting to 5%, non extra time or supplementary works, there shall be paid 95% of the contracting value;
 - the cost of works shall be separately detailed splitted on each of the process objectives.
- 7.2. There shall be indicated in the Commercial Bid the working costs for man – hour, “day/night shift”, Saturday – Sunday if the case or 24/24

working program;

8. Observations:
- 7.3. Provider shall include in the Commercial Bid and provide the supply of the necessary metal drums UN of ~220 litres (55 gallon) with mobile cover and the pallets related to the volumes of the catalysts / adsorbents to be unloaded;
 - 8.1. There shall be kept continuously the Nitrogen purge while unloading, for decreasing at the minimum possible the possibility of entering atmospheric air;
 - 8.2. Unloading shall be completed by vacuuming / or / and gravitationally, as the case;
 - 8.3. The unloaded catalyst shall be separated from the ceramic balls and stored in sealed metallic drums, labeled as necessary and transported in the special rooms indicated by PLK's personnel;
 - 8.4. Provider personnel shall be aware of and comply with the Safety Labor and Health Regulation in force in Romania, and have the human or logistic capacity to avoid or produce any type of emergencies of their own personnel;
 - 8.5. Provider's Personnel or other companies' under subcontracting regime, completing works on its behalf shall comply with the provisions of Convention SSM-SU and Environmental Protection concluded between PLK and Third Parties;
 - 8.6. Provider shall deliver by at least 5 days in advance of beginning the activities, the List containing their own personnel and identity data and Positions, and also the List of the Equipment to be introduced within Petrotel-Lukoil S.A.;

9. Commercial Terms

9.1. Payment shall be completed 60 days from the date of invoice.

Chief Technologist

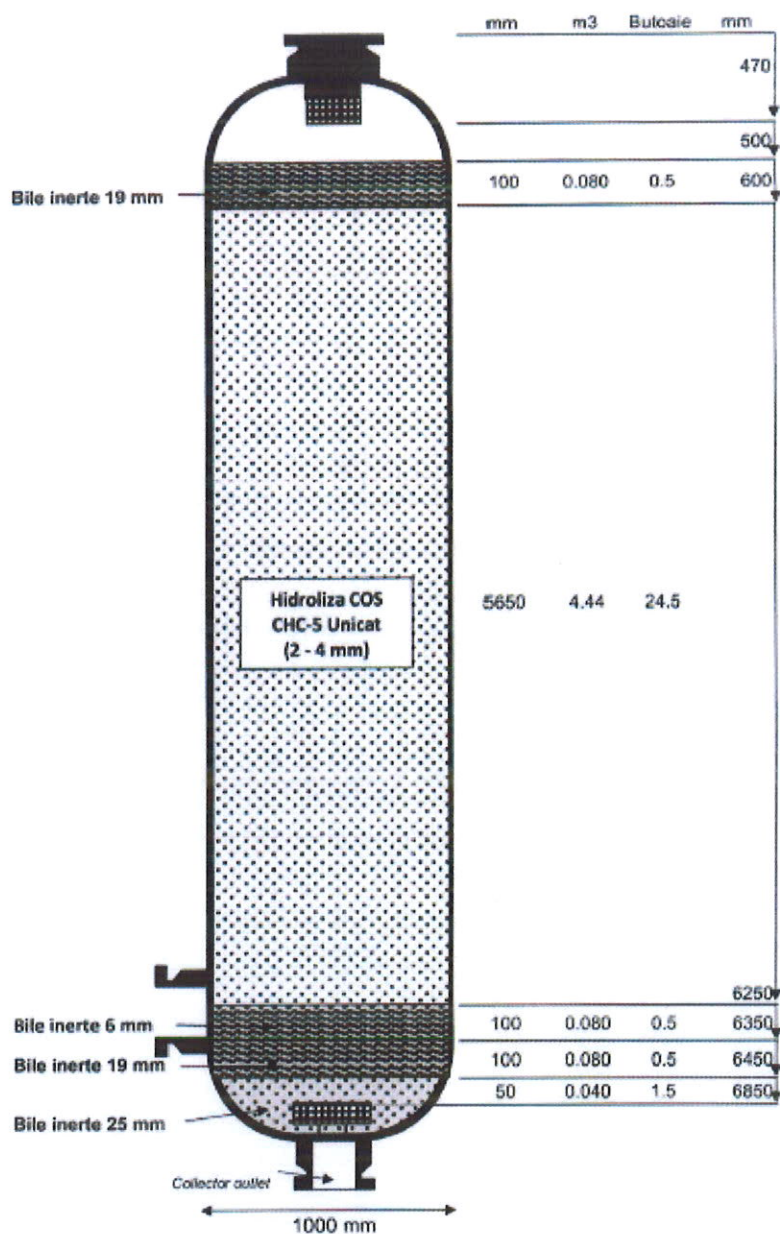
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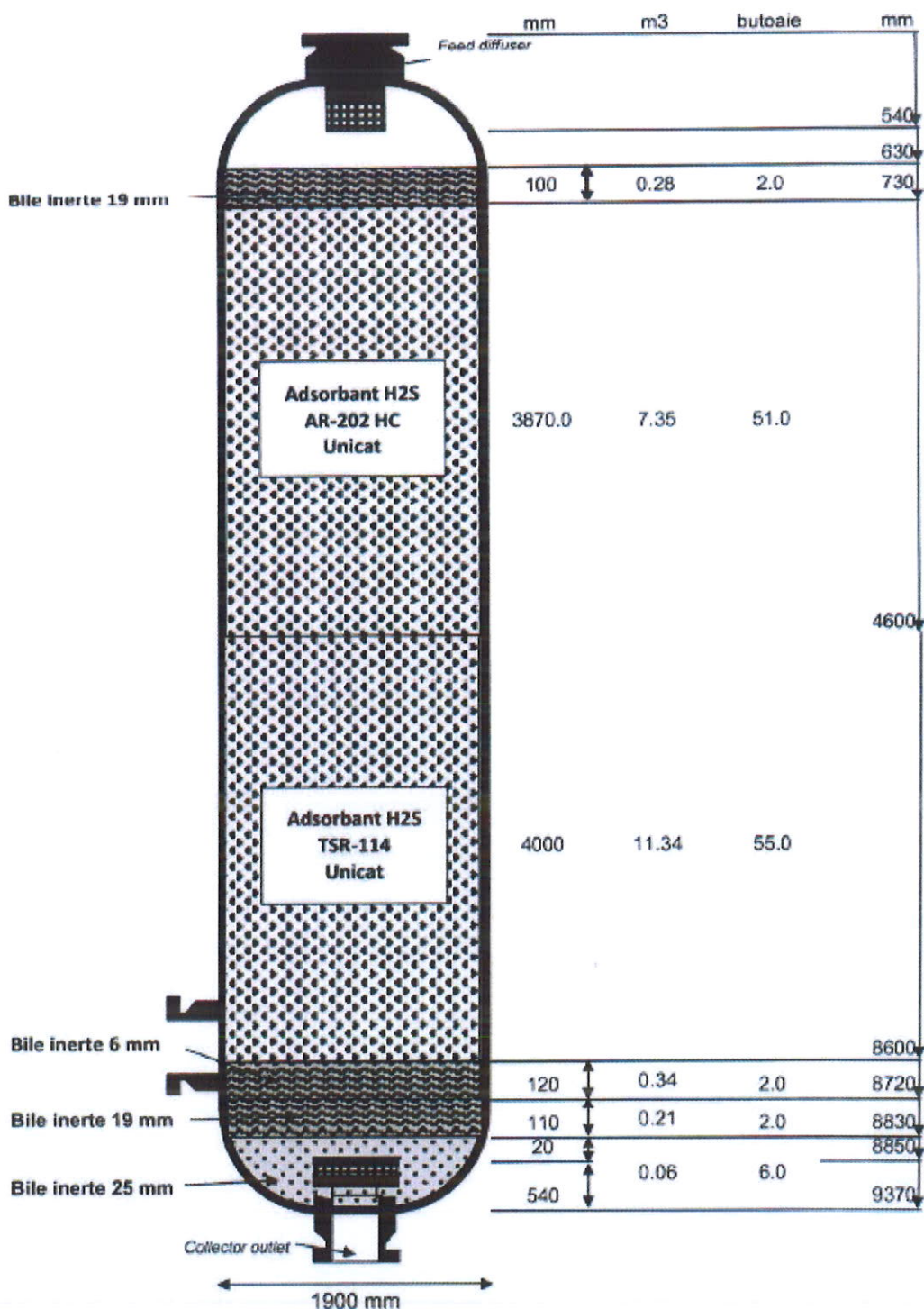


Engineer


Ampleev Alexandru


16.11.2021

Diagrams in used
09-GR1


09-GR2


SELF STICKING LABEL MODEL

Min 150 mm	
Min 150 mm	 S.C. PETROTEL-LUKOIL S.A.
	COMPANY LOGO
	Vessel / Reactor ID.....
	Material (Catalyst) Type.....
Drum No.....	Unloading data.....
Mass (kg).....	Shift ID.....

Note: Writing shall be done as clear as possible, by permanent marker pencil.
Labels must be weather resistant.