



## THE TECHNICAL ASSIGNMENT

Name of the technical assignment for the procurement of the service:	Procurement and replacement of catalysts for the hydrogenation of pyrolytic gasoline for the Ethylene plant
Service orderer (Block/Function):	Ethylene plant

## CONTENTS

1. CLASSIFICATION OF THE TECHNICAL ASSIGNMENT.....	<b>Greška! Obeleživač nije definisan.</b>
2. SUBJECT OF TECHNICAL ASSIGNMENT AND LOCATION ....	<b>Greška! Obeleživač nije definisan.</b>
3. DESCRIPTION OF THE EXISTING CONDITION.....	<b>Greška! Obeleživač nije definisan.</b>
4. GENERAL PROVISIONS.....	<b>Greška! Obeleživač nije definisan.</b>
5. SCOPE OF SERVICE AND TECHNICAL DESCRIPTION.....	2
6. TECHNICAL REQUIREMENTS .....	3
7. RIGHTS, OBLIGATIONS AND RESPONSIBILITIES OF THE SERVICE ORDERER.....	<b>Greška! Obeleživač nije definisan.</b>
8. RIGHTS, OBLIGATIONS AND RESPONSIBILITIES OF THE SERVICE PROVIDER .....	<b>Greška! Obeleživač nije definisan.</b>
9. BASIS FOR THE START OF SERVICE PROVISION (conditional) .....	4
10. DEADLINE AND DYNAMICS FOR IMPLEMENTATION OF THE SUBJECT SERVICE .....	<b>Greška! Obeleživač nije definisan.</b>
11. REQUIREMENTS FOR SERVICE QUALITY AND METHOD OF QUALITY CONTROL (optional) .....	<b>Greška! Obeleživač nije definisan.</b>
12. REPORTING.....	<b>Greška! Obeleživač nije definisan.</b>
13. ACCEPTANCE OF PERFORMED SERVICE .....	<b>Greška! Obeleživač nije definisan.</b>
14. WARRANTY PERIOD .....	<b>Greška! Obeleživač nije definisan.</b>
15. TECHNICAL QUALIFICATION CRITERIA .....	4
16. PRICE - ESTIMATE OF MATERIALS AND WORKS.....	<b>Greška! Obeleživač nije definisan.</b>
17. HSE (mandatory).....	6
18. COMPLIANCE TO TECHNICAL ASSIGNMENT .....	7
19. ADDITIONAL NOTES.....	8
20. ATTACHMENTS .....	8

**1. CLASSIFICATION OF THE TECHNICAL ASSIGNMENT**

The technical assignment envisages the procurement of a service with an IT component	No
--	----

**1.1 Technical assignment for the service of obtaining technical conditions, consents and permits and/or preparation of technical documentation**

The service for obtaining all necessary technical conditions, consents and permits is an obligation:	The customer of the service
The costs of all fees for obtaining technical conditions, consents and permits are borne by:	Bidder
The customer of the service has data from the appropriate spatial and urban planning documentation and certain technical documentation:	Technical drawing of the L-101A reactor
The technical documentation preparation service is an obligation:	Bidder
The contracting of the service in question, which is defined in the Terms of Reference, will be carried out according to the principle:	According to the precisely defined volume, unit prices, per unit of measure and payment according to the actually performed quantities.

**2. SUBJECT OF TECHNICAL ASSIGNMENT AND LOCATION**

Delivery of catalyst and carriers – grading materials (LOT 1), replacement of catalyst (LOT 2) in adiabatic reactor L-101A, start-up of reactor with new catalyst (LOT 3) and training of engineers and operators to manage reactor with new catalyst (LOT 4) at the Ethylene plant.

The place of work is HIP-Petrohemija, Pancevo.

**3. DESCRIPTION OF THE EXISTING CONDITION**

Before submitting an offer, the Bidder must visit the site where the service in question is performed and submit a certificate of the completed site visit, signed by the responsible person at the Ethylene plant, along with the tender documentation:	No
--	----

**4. GENERAL PROVISIONS**

The Contractor is obliged to perform the service in accordance with the valid legal and by-laws, regulations, technical norms and standards, rules of the profession and the requirements of the Ordering party contained in this technical assignment.

## 5. SCOPE OF SERVICE AND TECHNICAL DESCRIPTION

LOT 1: Delivery of catalyst and carriers

LOT 2: The job description includes the following activities:

- Installation of blinds
- Manhole opening
- Dismantling of upper and lower bars
- Emptying the catalyst into a trailer or barrels
- Filling the reactor with new catalyst and carriers
- Restoration of upper and lower bars
- Closing the manhole
- Deinstallation of blinds

LOT 3: Start-up of the L-101A reactor with a new catalyst

- Technical assistance for catalyst activation
- Technical assistance to start the reactor with a new catalyst until the product is in specification
- Support after the start in the form of counseling, reports and visits.

LOT 4: Training of engineers and operators to manage reactors with a new catalyst

- For the start, normal operation and shutdown of the reactor with a new catalyst
- For the process of activation, regeneration of the new catalyst and optimization of the reactor

Note: the training should be carried out at the location of HIP-Petrohemija - Ethylene factory

## 6. TECHNICAL REQUIREMENTS

The Service Provider's obligation is to perform all work professionally and with high quality, according to the applicable technical regulations and standards for this type of work.

## 7. RIGHTS, OBLIGATIONS AND RESPONSIBILITIES OF THE SERVICE ORDERER

### Obligations of the Ordering party:

- to submit the available technical documentation;
- assembly/disassembly of scaffolding;
- disassembly/assembly of thermal isolation ;
- setting up conditions for work;
- the person who will supervise the work;
- the person who will inspect the reactor;
- to bring the reactor into proper condition if any deviation is observed during the inspection;
- rental crane as needed.

## 8. RIGHTS, OBLIGATIONS AND RESPONSIBILITIES OF THE SERVICE PROVIDER

### Obligations of the Contractor:

- Acquaintance with the available technical documentation and on-site inspection, along with the collection of all relevant data for the execution of works;
- To appoint a person to manage all work in front of the Contractor, who will be in charge of contact and cooperation with the Ordering party's representative;
- To keep a construction diary regularly;
- Adheres to the instructions for disassembly/assembly of flanged joints;
- To provide qualified and trained workforce with experience in performing this type of work;

- Provide the necessary tools for work;
- Provide and use necessary protective equipment and manage people and work in accordance with applicable procedures for engaging third parties;
- Provide travel expenses and accommodation for the workforce;
- Appointing a safety coordinator, who would cooperate in everything with the Ordering party's responsible person for HSE;
- When making an offer, Contractor should submit a list of workers who will be engaged in these jobs;
- Submit the Standard Operating Instructions for the catalyst (reactor start-up with new catalyst, regeneration process);
- Training of engineers and operators for reactor management with a new catalyst;
- Contractors who enter a confined space must use a protective belt for working at height / at depth;
- It is necessary to create a rescue plan in case of an accident;
- Contractors entering the confined space must have portable gas detectors with them;
- Contractors who enter a closed space must have isolation devices and masks for respiratory protection at the ready.

## **9. BASIS FOR THE START OF SERVICE PROVISION**

## **10. DEADLINE AND DYNAMICS FOR IMPLEMENTATION OF THE SUBJECT SERVICE**

Catalyst replacement is planned in the overhaul in 2026, but in case the delivery is earlier, it is possible to replace it earlier.

## **11. REQUIREMENTS FOR SERVICE QUALITY AND METHOD OF QUALITY CONTROL (optional)**

## **12. REPORTING**

The Service Provider is obliged to regularly (daily) report to the Ordering party on the progress of the completed works and to keep a construction diary about it, which will be verified by expert supervision.

The Contractor is obliged to submit extraordinary reports in case of occurrence of circumstances that are on the critical path of project realization or affect safety and security.

## **13. ACCEPTANCE OF PERFORMED SERVICE**

In order to sign the Minutes, the contractor must submit:

1. Signed construction diary for inspection
2. Attestation - technical documentation

## **14. WARRANTY PERIOD**

The required warranty period for the performed works is 24 months.

The warranty period starts from the day of handover of the performed service, i.e. from the day of signing the Minutes of the performed service.

The Service Provider is obliged to remove all defects within the warranty period, which are found to be due to his fault (complaint), at the request of the ordering party.

The response time for a complaint cannot be longer than 48 hours from the moment of receiving it.

## 15. TECHNICAL QUALIFICATION CRITERIA

*Technical qualification criteria (TQC) are the criteria that the Bidder must meet in order to gain the right to apply for the procurement of the service.*

*It is necessary to define technical qualification criteria that will include requirements related to: possession of appropriate authorizations to perform the requested service, quality and experience of the Bidder, personnel and technical equipment and other specific requirements, according to the complexity of the service in question.*

*Table - Technical qualification criteria*

No.	Technical Qualification Criteria (TQC)	Supporting documentation (the same proves the fulfillment of the required TQC)
1.	The company that performs the service in question must be registered in the commercial register as a company for performing the activity that is the subject of procurement.	Attach the company registration statement. If the supplier plans to hire subcontractors for this work, submit a registration statement and cooperation agreement (vessel control inspection...)
2.	The company applying for the contract must prove that it or its subcontractors have applied their catalyst in the petrochemical industry for the last 10 years.	Reference list of completed jobs with phone numbers of people to contact and check the allegations.
3.	...	...
...	...	...

In the event that after the submission of the documentation and the issuance of the technical assessment, there is a change in the certified personnel, the Bidder is obliged to report the change as soon as possible. No change is allowed without agreement with the Ordering party on possible ways to overcome the situation.

## 16. PRICE - ESTIMATE OF MATERIALS AND WORKS

*Table - Display of data that the bill of materials and works should contain*

ESTIMATION OF MATERIALS AND WORK / SPECIFICATION OF SERVICES					
No.	Position description	Unit of measure	Quantity	Unit price	In total
LOT 1					
1	Delivery of catalyst and carrier	m <sup>3</sup>	16.17		
LOT 2					
2	Installation of blinds	piece	6		
3	Manhole opening	piece	2		
4	Dismantling of upper and lower bars in the reactor	piece	4		
5	Emptying the catalyst into a trailer or drums	t	11		
6	Filling the reactor with new catalyst and carriers	m <sup>3</sup>	16.17		
7	Restoration of upper and lower bars	piece	4		

8	Closing the manhole	piece	2		
9	Deinstallation of blinds	piece	6		
<b>LOT 3</b>					
10	Technical assistance for catalyst activation	piece	1		
11	Technical assistance for the start of the reactor with a new catalyst until obtaining the product in specification	piece	1		
12	Support after the start in the form of advice, reports and visits.	piece	1		
<b>LOT 4</b>					
13	Training of engineers and operators to manage reactors with a new catalyst	piece	1		
Additional works as needed (optional):					
		Norm/hour			
<b>In total:</b>					

Notes:

The Bidder may not make any changes within the bill of materials and works.

The Bidder should not enter the unit or total price in the technical assignment.

## 17. HSE

### 17.1 Determining the level of HSE risk

Table - List of services

No.	Services	Code taxonomy	Description of the taxonomy	Hazard risk assessment (L, M, H)
1.	Procurement and replacement of catalysts for the hydrogenation of pyrolytic gasoline for the Ethylene Factory 600003970	512300	Turnkey service	16 (H) – High risk

Table - Additional conditions for determining the level of HSE risk of the contractual document

Additional conditions	Hazard risk assessment when contracting service services	HIGH risk	MODERATE risk	LOW risk
*)	Number of employees/hired according to the contractual document		>50 ≤50	>50 ≤50
**)			>1 year	>1 year

	Contracted/planned duration of the Contract Document		<=1 year	Occasional work
***)	The value of the contract document		>500.000E	>500.000E
			<=500.000E	<=500.000E

**The final level of HSE risk** - refers to the subject of procurement as a whole:

- **High risk (H).**

## 17.2 Designation of responsible persons in the "Management of contractors" process

**The only responsible person (ORP)** is: Dejan Trpčevski, Production Technician

**The person for coordination and control of the implementation of the provisions of the Agreement** on occupational health and safety, environmental protection and fire protection in the Company, TFU-328 contract document (Person for HSE) is: Vladimir Stojšić, Specialist for SSW and IS

## 17.3 Request for determining the number of HSE persons of the Contractor

*Table - Number of HSE people by employment*

Description of engagement	Number of HSE people
The Contractor hires more than 30 employees (already defined by the HSE Agreement)	One HSE person per 30 employees
The Contractor hires subcontractors	Each hired company has its own HSE person
Contractor and subcontractors	One HSE person per 20 employees

If the Contractor independently implements contractual activities and at the same time hires more than 30 employees (already defined by the mutually signed HSE Agreement), he must hire at least one HSE person for every 30 employees (for example, in total, he has hired 134 employees for the implementation of the Contract, he must have at least 5 of engaged people).

If the Contractor hires subcontractors for the implementation of contracted activities, two cases are possible:

- Each engaged subcontractor company must have an engaged HSE person (it cannot be the same for two or more companies) (for example, the contractor hires five subcontractors, in that case the total number would be at least 6 HSE people for the implementation of the Contract, with the already mentioned limitation that the number of employees per employee cannot be over 30) or;
- The contractor hires one HSE person for a total of 20 employees for subcontractor (the case that at one small location, for example, a fuel supply station, a collective dispatch station, a borehole..., one contractor hires five subcontractors who perform contracted activities with a small number of employees, where the total number of engaged workforce does not exceed 20) then the Contractor has the possibility to hire a total of one HSE person to supervise the contracted activities, regardless of the number of subcontractors.

Selection of the People for the HSE Contractor is decided at the Working meeting, and the result of the agreement is registered in the minutes of the introductory working meeting.

## 18. COMPLIANCE TO TECHNICAL ASSIGNMENT

The Bidder must submit a Statement, signed and certified by an authorized person, on compliance with all conditions and requirements defined in the subject Technical Assignment.

Offers that are not completed in the part of providing evidence of meeting the general and technical requirements of the tender will not be considered.

## 19. ADDITIONAL NOTES

If the Bidder determines that there are deficiencies within the scope of the Technical Assignment and other tender documentation, it must inform the contact people listed in the Invitation to Bid, before the deadline for submitting bids expires.

## 20. ATTACHMENTS

- Technical documentation, drawings:
- Drawing of reactor L-101A (Appendix 1)
- Technical specifications (Appendix 2)

## 21. HARMONIZERS - DINIS

- Table - Harmonizers of the technical assignment

Accountable people	Name and surname
Author of the Technical Assignment:	Anđela Cvetković
Project Manager:	Anđela Cvetković
Responsible person for HSE	Vladimir Stojšić