

Questions and answers

Question 1

Can ChimComplex give a more detailed list for the expected deliverable for DDE phase. Tender understanding is that DDE work will focus on process and Mechanical Engineering for equipment only, meaning:

- a. **Mechanical specifications for Equipment**
- b. **preparation of Technical Bid Evaluation for the same,**
- c. **Equipment List including Equipment weight**
- d. **and that, civil design, piping/ structure detailed engg (including 3Dmodel), electrical & instrumentation detailed engg will be performed by others**

Answer:

Tenderer will have in view the inclusion in the TECHNICAL and COMMERCIAL offer of the following activities:

- Provision of license, know-how for each component of the project (described at point 3.3)
- Gantt chart of the requested activity;
- Technical project, basic engineering;
- Elaboration of technical specifications and DDE projects for the purchase of the equipments for the plant;
- **Elaboration of detailed design engineering (DDE) for all specialties:** for civil Works we are expecting from the Tenderer the loads/tasks necessary to perform the DDE for the civil construction works and metal structures; to be included in the offer the performing of the DDE for the equipment installation and pipes, electrical, automation to be included in the offer the performing of the documentation for the ATEX classification zone and documentation;
- Operation manuals for each unit according to item 3.3;
- Analytical manual to support the interphase and final control of the products (analysis methods, necessary equipment and equipment specification);
- Documentation conforming to the final execution (as-built) after the successful completion of the performance test;
- Performance guarantees of the project for the unit.

DDE for civil design will be out of tenderer scope, because it is a special Romanian earth quark design code to be applied by a Romanian design company.

Process detailed design engineering, mechanical detailed design engineering (including 3D model), electrical detailed design engineering, instrumentation detailed design engineering, process control and safety system will be included as deliverable for DDE phase

Question 2

Can Chimcomplex give the respective flowrates and compositions of brines produced per unit (nota: it seems to be an inconsistency in TOC vs COD range as max COD > max TOC (TOC 3 000 - 40 000 vs COD 10 000 - 18 000)?

Answer:

The tenderer must take into consideration the brines produced in all units as it is defined in tenderer book.

Please find the correction regarding the value of COD. The range is: 10650-142000 ppm



The designed unit must ensure the treatment of all impure brine flows resulting from the entire production units such as: crude glycerin purification, epichlorohydrin synthesis, epoxy resins and reactive diluent.

Treatment and purification brine unit capacity: **minimum 24 m³/h**

Operating time: 8300 h/year

The technical specification of the impure brine flow is:

Parameter	U.M	Value
NaCl content	mass %	15-18
TOC	ppm	3000-40000
COD	ppm	10650-142000
organic components		Glycerin, MCH, DCH, epichlorohydrin, toluene, trichloropropane

Question 3

Can Chimcomplex confirm that purified brine specification is < 10 ppm wt organic compound content (rather than < 10 ppm wt TOC) ?

Please find the correction:

Please find the clarifications:

After the treatment and purification, a purified brine will result according to the bellow specification:

Component	U.M	Value
pH	pH units	8.5-10.5
TOC (total organic carbon)	ppm	<10 (target 7 ppm)
Na ₂ CO ₃	g/l	0.06
NaOH	g/l	<0.004
Sulphate (as Na ₂ SO ₄)	g/l	10
Ca	g/l	0.3
Mg	g/l	0.04
Al	ppb	<10
As	ppm	<0.5
Ba	ppm	<0.1
Sb	ppm	<0.2
Cd	ppm	<0.2
Co	ppm	<0.1
Cr	ppm	<0.05
Cu	ppm	<0.02
Fe	PDB	290
Hg	ppm	<0.01
Mn	ppm	0.09
Mo	ppm	0.25
Ni	ppb	<10
Pb	ppb	<50
Sb	ppb	< 8.4
SiO ₂	ppm	2
Sr	ppb	<100
Chlorate (as NaClO ₃)	g/l	4



sulphides	ppm	0.34
Chlorine		-
NH4 +	ppm	2.4
Turbidity	NTU	≤ 64

Question 4

Can Chimcomplex confirm that NaOCl solution will be available as raw material and provide specification ?

Answer:

NaOCl solution will be available as raw material on site and it has the following technical specification:

Parameter	U.M	Value
Appearance	-	Clear to slightly opalescent liquid
Color	-	Yellow to faint brown
Available chlorine content	%	min. 12.5
Contained in sodium hypochlorite	%	min. 13.1
Chloride content	%	max.1.4
Sodium hydroxide content	%	max.2
Sodium carbonate content	%	max.1.7
Density at 20°C	Kg/l	1.20÷1.31
Stability at 35°C for 24 hours (using product at dilution of 130 g/l)	g/l	max.5
pH at 1% dilution at 20°C	pH unit	Min. 10.5

Question 5

Can Chimcomplex confirm that Nitrogen will be available as utility and provide specification?

Answer:

Nitrogen will be available on site and it has the following technical specification:

Parameter	U.M.	Value
Purity	%	≥99.999
Oxygen	vpm	≤3
H ₂ O	vpm	≤5

Pressure: 2 ÷ 5 bar

Question 6

At chapter 4.2 (and also 5.3) of the TENDER BOOK it is mentioned the following:

“The tenderer will make the design documentation (BD,PT, technical specification of the equipment, DDE) available to the beneficiary within a maximum of 6 months from the date of signing and entry into in force of the contract.”

Since deadline of 6 months including also the Detailed Design Engineering scope of supply seems to us a too short term, we kindly ask you to clarify and explain more in detail which are the deliverables expected by Chimcomplex within the indicated deadline of 6 months.

Answer:

The deliverables are in accordance with chapter 2.1:



- Provision of license, know-how for each component of the project (described in point 3.3)
- Gantt chart of the requested activity;
- Technical project, basic engineering;
- Elaboration of technical specifications and DDE projects for the purchase of the equipments for the plant;
- **Elaboration of detailed design engineering (DDE) for all specialties:** for civil Works we are expecting from the Tenderer the loads/tasks necessary to perform the DDE for the civil construction works and metal structures; to be included in the offer the performing of the DDE for the equipment installation and pipes, electrical, automation to be included in the offer the performing of the documentation for the ATEX classification zone and documentation;
- Operation manuals for each unit according to item 3.3;
- Analytical manual to support the interphase and final control of the products (analysis methods, necessary equipment and equipment specification);
- Documentation conforming to the final execution (as-built) after the successful completion of the performance test;
- Performance guarantees of the project for the unit.

DDE for civil design will be out of tenderer scope, because it is a special Romanian earth quark design code to be applied by a Romanian design company.

Process detailed design engineering, mechanical detailed design engineering (including 3D model), electrical detailed design engineering, instrumentation detailed design engineering, process control and safety system will be included as deliverable for DDE phase.

All these deliverables will have a deadline of maximum 6 months in order to assure the manufacturing of the long manufacturing time equipment and the site installation works, as the project deadline is controlled by the government who provides a part of the project financing.

Question 7

The Tender Book states “The tenderer will make the design documentation (BD, PT, technical specifications of the equipment, DDE) available to the beneficiary within a maximum of 6 months from the date of signing and entry into force of the contract a total time of engineering”.

Question: What is the reasoning behind this very short time frame, and can it be circumstanced by other measures?

Answer:

The project “The establishment of a new sustainable epoxy resins production unit based on epichlorohydrin synthesis in Chimcomplex SA Borzesti” benefits a financial support from the state budget through the Ministry of Economy, Entrepreneurship and Tourism based on the "State aid scheme regarding the granting of grants for investments intended for the manufacturing industry".

Thus, Chimcomplex must implement this project until the end of 2026, 31st of December 2026 and to respect the timeline of the project implementation.

GENERAL MANAGER
FLORIAN STAICU

MANAGER PROJECT
MARDARU ANAMARIA