

The list and requirements to the Pre-Feasibility Study / Feasibility Study / PDP / BDEP.

A determination of a scope of work of the companies participating in the project.

Appendix [x] for ToR [x]

Designations:

ID: Input data for the design

FS: Feasibility Study

Pre-FS: Pre-Feasibility Study

PDP: Product Development Process

BDEP: Basic Design Engineering Package

CU: Customer, (enter Customer name) (including affiliated contractors)

Inn: PT Innovate Teknologi Group, Contractor (and / or affiliated parties)

Lic: Licensor

Ve: Equipment supplier

E: Execution, development of the item

A: Amendment and verification

I: Provision of the initial data for development

C: Control of provided documentation

N: Not provided, not applicable

Pre: Preliminary version of issued document

Adv: Advanced version of issued document

Fin: Final version of issued document

The document is provided for reference. Exact conditions must be coordinated between the Parties at Agreement conclusion stage.

CONFIDENTIAL INFORMATION The information shall not be copied, reproduced, used, or transferred to other parties without the prior written consent of PT Innovate Teknologi.

Table 1. Distribution of works on documentation, Basic Design Engineering Package content, scope of works of the Contractor, dates of documents provision.

| No. | Title of the document / description | ID | BDEP | | Term | | |
|----------|---|----|------|----|------|-----|-----|
| | | CU | Inn | CU | Pre | Adv | Fin |
| 1 | Basic provisions | | | | | | |
| 1.1 | List of project documents | | E | | | | |
| 1.2 | List of standards (normative documents) | | E | | | | |
| 1.3 | List of symbols of the graphic part | | E | | | | |
| 1.4 | List of units of measurement | | E | | | | |
| 2 | Process | | | | | | |
| 2.1 | The text part of the technological documentation, including, but not limited to: | | | | | | |
| 2.1.1 | Annual performance, project composition | I | E | | | | |
| 2.1.2 | Design capacity and potential maximum / minimum capacity for the installation | I | E | | | | |
| 2.1.3 | Number of working hours per year | I | E | | | | |
| 2.1.4 | Description of the chemistry of the process by stages and target values for selectivity and conversion of raw materials at various technological stages. Description of operating modes and basic control methods, according to PFD. | | E | | | | |
| 2.1.5 | Initial data on kinetics of reaction stages (as available) | | E | | | | |
| 2.1.6 | Specification of raw materials, reagents and energy resources | I | A | | | | |
| 2.1.7 | Specification of all products and by-products | | E | | | | |
| 2.1.8 | Physical properties for all raw materials and auxiliary materials (with a list of suppliers, if applicable) | I | A | | | | |
| 2.1.9 | List of flow parameters at the boundary of the installation: including number, name, from/to, condition, flow, pipeline preliminary diameter, operating and design conditions (temperature and pressure), etc. | I | A | | | | |
| 2.1.10 | A detailed description of the process, including a | | E | | | | |

CONFIDENTIAL INFORMATION The information shall not be copied, reproduced, used, or transferred to other parties without the prior written consent of PT Innovate Teknologi.

| No. | Title of the document / description | ID | BDEP | | Term | | |
|--------|--|----|------|----|------|-----|-----|
| | | CU | Inn | CU | Pre | Adv | Fin |
| | description of possible changes in process parameters (trends) and critical equipment and their impact on the operation of the entire installation. (If applicable) | | | | | | |
| 2.1.11 | Process Control main principles | | E | | | | |
| 2.1.12 | Safety and Shutdown principles | | E | | | | |
| 2.1.13 | Material balance and balance of energy resources | | E | | | | |
| 2.1.14 | Update of the flow parameters of main and auxiliary flows, utilities, Material balance based on information supplied by vendors | | N | | | | |
| 2.1.15 | Other information to be included in descriptive part, including but not limited to: <ul style="list-style-type: none"> - Justification and description of main types of resources for process needs - Description of the sources of raw materials and supplies (brief information) - Description of requirements regarding parameters and quality characteristics of the products - Justification of parameters and characteristics of the process and auxiliary equipment - Description of processes, their operating conditions, description of the start/stop of production lines from “cold” and “hot” state - Description of preparatory measures for production lines startup - Description of potential faults dictated by process specificity and methods for their elimination | | E | | | | |
| 2.2 | Process flow diagrams and schematic diagrams of energy resources (together with a table of material and heat balances), including, but not limited to: | | | | | | |
| 2.2.1 | Process Flow Diagrams (PFD) | | E | | | | |
| 2.2.2 | Utility Flow Diagrams (UFD) as a part of PFD, ISBL | | E | | | | |

CONFIDENTIAL INFORMATION The information shall not be copied, reproduced, used, or transferred to other parties without the prior written consent of PT Inovate Teknologi.

| No. | Title of the document / description | ID | BDEP | | Term | | |
|-------|--|----|------|----|------|-----|-----|
| | | CU | Inn | CU | Pre | Adv | Fin |
| 2.3 | Consumption rates of raw materials, energy resources, auxiliaries and reagents in various modes (nominal, maximum, minimum, recovery, regeneration, shutdown, start-up, passivation, steaming, blowing, washing (what is applicable)). | | E | | | | |
| 2.4 | Piping and instrumentation diagrams, including but not limited to: | | | | | | |
| 2.4.1 | Piping and Instrumentation Diagrams (P&ID) for ISBL | | E | | | | |
| 2.4.2 | Piping and instrumentation schemes for utilities (as part of the main P&ID schemes, ISBL). | | E | | | | |
| 2.4.3 | Piping and instrumentation diagrams of package supplies | | N | | | | |
| 2.4.4 | Schemes, produced by package equipment vendors | | N | | | | |
| 2.4.5 | Combining vendor schemes into final P&IDs | | N | | | | |
| 2.5 | Pipeline List (based on P&ID) | | E | | | | |
| 2.6 | Lists of instruments (not including package supplies): | | | | | | |
| 2.6.1 | Lists of sensors (flow, pressure, temperature) and reducing diaphragms. | | E | | | | |
| 2.6.2 | Lists of control valves | | E | | | | |
| 2.6.3 | Lists of other Instruments | | E | | | | |
| 2.7 | Questionnaires for special parts or piping equipment (not including package supplies). No graphical data. | | E | | | | |
| 2.8 | Safety systems | | N | | | | |
| 2.8.1 | Pressure safety valves, relief valve and bursting disc data | | N | | | | |
| 2.8.2 | Breathing valve data | | N | | | | |
| 2.8.3 | Flare system / blow offs treatment unit data | | N | | | | |
| 2.8.4 | List of electrical receivers powered in case of an accident | | N | | | | |
| 2.9 | Laboratory control | | E | | | | |
| 2.9.1 | A list of analytical controls including: sampling points, analyzed medium, composition, sample volume, | | E | | | | |

| No. | Title of the document / description | ID | BDEP | | Term | | |
|----------|--|----|------|----|------|-----|-----|
| | | CU | Inn | CU | Pre | Adv | Fin |
| | analytical methods, analysis frequency | | | | | | |
| 2.9.2 | List of basic laboratory equipment | | E | | | | |
| 2.9.3 | Analytical Control Guide | | N | | | | |
| 2.9.4 | Detailed drawings for special sampling, data on warehouse for arbitration samples | | N | | | | |
| 2.9.5 | Questionnaires for the main equipment of the laboratory | | N | | | | |
| 2.9.6 | List of chemicals and reagents, list of reference materials and carrier gases and mixtures. | | N | | | | |
| 2.10 | Mathematical model (MM) of the process within the boundaries of ISBL. Developed, but not provided. | | E | | | | |
| 2.11 | Update of corresponding parts of the Process part based on the data from Vendors | | N | | | | |
| 3 | Equipment and machines | | | | | | |
| 3.1 | Basic equipment documents | | | | | | |
| 3.1.1 | Equipment list | | E | | | | |
| 3.1.2 | List of loads, preliminary | | E | | | | |
| 3.2 | Information on vessels, reactors, columns, tanks, and other major equipment, including but not limited to: | | | | | | |
| 3.2.1 | Questionnaires (Requests for quotation, RFQs) | | E | | | | |
| 3.2.2 | Sketches (if required due to the uniqueness of the equipment) | | E | | | | |
| 3.2.3 | Equipment and Internal Devices Vendor List | | E | | | | |
| 3.2.4 | Questionnaires for special equipment | | E | | | | |
| 3.2.5 | Assembly and detail drawings of equipment | | N | | | | |
| 3.2.6 | Assembly and detail drawings of internal devices | | N | | | | |
| 3.2.7 | Strength calculations of equipment | | N | | | | |
| 3.2.8 | Calculations of safety systems (including calculation of safety valves) | | N | | | | |
| 3.2.9 | Preliminary instructions and recommendations for installation and maintenance | | E | | | | |
| 3.2.10 | Design documents for stairs and service platforms | | N | | | | |

CONFIDENTIAL INFORMATION The information shall not be copied, reproduced, used, or transferred to other parties without the prior written consent of PT Innovate Teknologi.

| No. | Title of the document / description | ID | BDEP | | Term | | | |
|--------|--|----|------|-----|------|-----|-----|-----|
| | | | CU | Inn | CU | Pre | Adv | Fin |
| 3.2.11 | Detailed design for stairs and service platforms | | | N | | | | |
| 3.2.12 | Test and Inspection Program | | | N | | | | |
| 3.2.13 | Test and Inspection Report | | | N | | | | |
| 3.3 | Information on heat exchangers | | | | | | | |
| 3.3.1 | Questionnaires | | | E | | | | |
| 3.3.2 | Sketches of heat exchangers | | | N | | | | |
| 3.3.3 | Questionnaires for special heat exchangers (if applicable) | | | E | | | | |
| 3.3.4 | List of equipment suppliers relating to heat exchangers | | | E | | | | |
| 3.3.5 | Assembly and detailed drawings | | | N | | | | |
| 3.3.6 | Strength calculations | | | N | | | | |
| 3.3.7 | Calculations of safety systems (including calculation of safety valves) | | | N | | | | |
| 3.3.8 | Design documents for stairs and service platforms | | | N | | | | |
| 3.3.9 | Detailed project for stairs and service platforms | | | N | | | | |
| 3.3.10 | Test and Inspection Program | | | N | | | | |
| 3.3.11 | Test and Inspection Report | | | N | | | | |
| 3.3.12 | Preliminary instructions and recommendations for installation and maintenance | | | E | | | | |
| 3.4 | Dynamic machines, critical equipment | | | | | | | |
| 3.4.1 | Dynamic Machine Questionnaires | | | E | | | | |
| 3.4.2 | List of equipment suppliers in relation to dynamic equipment. Refer to p.3.2.3 | | | E | | | | |
| 3.5 | Other equipment: non-critical equipment ISBL | | | | | | | |
| 3.5.1 | Questionnaires for non-critical equipment, ISBL | | | E | | | | |
| 3.6 | Order, support | | | N | | | | |
| 3.6.1 | Consideration of technical proposals from suppliers | | | N | | | | |
| 3.6.2 | Technical negotiations with suppliers | | | N | | | | |
| 3.6.3 | Review and approval of supplier drawings (if applicable) | | | N | | | | |

CONFIDENTIAL INFORMATION The information shall not be copied, reproduced, used, or transferred to other parties without the prior written consent of PT Innovate Teknologi.

| No. | Title of the document / description | ID | BDEP | | Term | | |
|----------|---|----|------|----|------|-----|-----|
| | | CU | Inn | CU | Pre | Adv | Fin |
| 3.6.4 | Inspection and final testing at the factory | | N | | | | |
| 3.6.5 | Provision of final drawings to suppliers | | N | | | | |
| 3.6.6 | Providing detailed installation instructions | | N | | | | |
| 3.6.7 | Providing detailed maintenance instructions | | N | | | | |
| 3.6.8 | Spare parts list for 3 years and special tool list | | N | | | | |
| 3.6.9 | List of lubricants | | N | | | | |
| 3.7 | Update of items above based on Vendors' information. Update of Specifications, Data Sheets, Questionnaires for equipment is not included | | N | | | | |
| 4 | Safety and environmental protection | | | | | | |
| 4.1 | Description of hazards: | | | | | | |
| 4.1.1 | Table of characteristics of hazardous substances | | E | | | | |
| 4.1.2 | Table of toxicity of substances | | E | | | | |
| 4.1.3 | Information about other hazards (if applicable) | | E | | | | |
| 4.1.4 | Analysis of possible accidents, accident rate of the technological system | | N | | | | |
| 4.2 | Labor protection and sanitation measures, including but not limited to (only pertaining to specificity of the process): | | E | | | | |
| 4.2.1 | Measures for the prevention and liquidation of emergency situations (description of the measures implemented in BDEP and / or requirements for implementation at further stages) | | E | | | | |
| 4.2.2 | Measures to ensure tightness, fire protection, explosion protection, etc., (description of the measures implemented in BDEP and / or requirements for implementation at further stages) | | E | | | | |
| 4.2.3 | Procedures for inspection and notification, control (whatever is applicable), description of shutdown procedure and emergency shutdown procedure for emergency situations | | E | | | | |
| 4.2.4 | Lightning and ESD Protection Measures | | N | | | | |
| 4.2.5 | Safe distances between technological equipment (in | | N | | | | |

CONFIDENTIAL INFORMATION The information shall not be copied, reproduced, used, or transferred to other parties without the prior written consent of PT Inovate Teknologi.

| No. | Title of the document / description | ID | BDEP | | Term | | |
|----------|---|----|------|----|------|-----|-----|
| | | CU | Inn | CU | Pre | Adv | Fin |
| | excess to the data provided in layout part), rules and evacuation routes, first aid rules | | | | | | |
| 4.2.6 | Information about shower posts | | N | | | | |
| 4.2.7 | Measures to protect against hypothermia, noise, dust, falls from a height, etc. | | N | | | | |
| 4.2.8 | Individual protection means dictated by the specificity of the process | | E | | | | |
| 4.3 | Fire safety including but not limited to: | | N | | | | |
| 4.3.1 | Questionnaires for fire control equipment | | N | | | | |
| 4.3.2 | Plan of location of firefighting measures | | N | | | | |
| 4.3.3 | Fire extinguishing system flow diagrams (foam extinguishing systems, water fire extinguishing systems, gas fire extinguishing systems) | | N | | | | |
| 4.3.4 | Instructions for fire safety | | N | | | | |
| 4.4 | Environmental protection, including but not limited to: | | | | | | |
| 4.4.1 | material balance of toxic and hazardous materials: | | E | | | | |
| | flow balance of toxic and hazardous materials, including main raw material flows and auxiliary flows, flows of emissions, discharges, waste | | | | | | |
| 4.4.2 | Waste information | | | | | | |
| 4.4.3 | Information on solid, gaseous, liquid wastes within the ISBL boundaries | | E | | | | |
| 4.4.4 | List of pressure safety valves. The content of the list includes P&ID number, device type, pipeline number/ equipment, etc. | | E | | | | |
| 4.4.5 | Update of items above based on information provided by Vendors | | N | | | | |
| 5 | Pipelines (technological and auxiliary), based on P&ID | | | | | | |
| 5.1 | Piping documents | | | | | | |
| 5.1.1 | Summary table of piping lines | | E | | | | |
| 5.1.2 | Piping classes | | N | | | | |
| 5.1.3 | List of abbreviations and structure of pipeline | | E | | | | |

CONFIDENTIAL INFORMATION The information shall not be copied, reproduced, used, or transferred to other parties without the prior written consent of PT Innovate Teknologi.

| No. | Title of the document / description | ID | BDEP | | Term | | |
|-------|--|----|------|----|------|-----|-----|
| | | CU | Inn | CU | Pre | Adv | Fin |
| | material codes | | | | | | |
| 5.2 | Location of pipelines | | N | | | | |
| 5.3 | Strength analysis of pipelines | | N | | | | |
| 5.4 | Detailed piping routing. Preliminary decisions on piping will be provided as described in p.6 | | N | | | | |
| 5.5 | Materials specification and detailed piping list including the number of pipes, valves, fittings, gaskets, pipeline accessories (valve, fasteners etc.) | | N | | | | |
| 5.6 | Pipeline supports | | N | | | | |
| 5.6.1 | Main specifications of supports | | N | | | | |
| 5.6.2 | Characteristics and types for pipeline supports | | N | | | | |
| 5.6.3 | Arrangement of clamps, brackets for equipment With indication of the results of a preliminary analysis of thermal stability | | N | | | | |
| 5.7 | Pipeline rack Pipe rack drawings, including detailed drawings | | N | | | | |
| 5.8 | Connection points at the edge of the ISBL (in addition to the data provided in the process part). Layout plan of underground pipelines, including sewerage and fire water. Auxiliary piping is indicated on the piping layout | | N | | | | |
| 5.9 | Review of supplier drawings (if required) | | N | | | | |
| 5.10 | Development of sketches and questionnaires for special fittings and special pipelines | | N | | | | |
| 5.11 | Parameters / requirements for tracing (electrical tracing) to be developed by the supplier of heating equipment (in addition to p.5.1.2) | | N | | | | |
| 5.12 | Insulation and painting (in addition to p.5.1.2). List of equipment and pipelines should contain the information indicating the type of insulation (from heat / from cold), thickness and material of insulation, indicating the name and number of the equipment | | N | | | | |
| 5.13 | Update of items above based on Vendors' | | N | | | | |

CONFIDENTIAL INFORMATION The information shall not be copied, reproduced, used, or transferred to other parties without the prior written consent of PT Innovate Teknologi.

| No. | Title of the document / description | ID | BDEP | | Term | | |
|----------|--|----|------|----|------|-----|-----|
| | | CU | Inn | CU | Pre | Adv | Fin |
| | information | | | | | | |
| 6 | General plan, Layout | | | | | | |
| 6.0 | 3D model. The model should consist of individual items of equipment. The model does not include piping. | | E | | | | |
| 6.1 | The overall 3D model and a Layout issued from it should include, but not be limited to: <ul style="list-style-type: none"> - installation boundaries within ISBL; - all blocks with the names; - site dimensions; - coordinates of buildings and structures (required by the process); - preliminary location of equipment (required by the process); - hazardous emissions locations (preliminary) The initial Layout of the construction site is provided by the Customer. The Contractor will consider the possibility to use the existing infrastructure (if any) | | E | | | | |
| 6.2 | Equipment layout sketches (formed from a 3D model, upon request). Sketches of the equipment location, indicating the relative location and marks of the equipment | | E | | | | |
| 6.3 | Update of items above based on Vendors' information | | N | | | | |
| 7 | Instrumentation and Automation (separate section of the project) | | | | | | |
| 7.1 | Basic Instrumentation Documentation and Instrument Selection Criteria | | N | | | | |
| 7.1.1 | List of applicable codes and standards | | N | | | | |
| 7.1.2 | List of measuring and control instruments governed by the process (refer to the process part) | | E | | | | |
| 7.1.3 | Criteria for the selection of basic materials / requirements for material implementation | | N | | | | |
| 7.1.4 | Power supply and grounding | | N | | | | |

CONFIDENTIAL INFORMATION The information shall not be copied, reproduced, used, or transferred to other parties without the prior written consent of PT Innovate Teknologi.

| No. | Title of the document / description | ID | BDEP | | Term | | |
|--------|--|----|------|----|------|-----|-----|
| | | CU | Inn | CU | Pre | Adv | Fin |
| 7.1.5 | Instruments installation description (in addition to the process part) | | N | | | | |
| 7.1.6 | Instruments protection (special requirements, if any) | | N | | | | |
| 7.1.7 | Instrument connection lines | | N | | | | |
| 7.1.8 | Electrical communication between devices | | N | | | | |
| 7.1.9 | Other Instrumentation Documents (instruments database, standard drawings and documents not required above) | | N | | | | |
| 7.1.10 | Design criteria for control room (special requirements, if any) | | E | | | | |
| 7.1.11 | Control and emergency protection system (in addition to the process part) | | N | | | | |
| 7.2 | Calculation and determination of the load consumption of devices | | N | | | | |
| | The contents include an assessment of the electrical load from instruments, the load on their tracing (including hot water, electricity), etc. | | N | | | | |
| 7.3 | List of instruments and Data Sheets, according to the points below: | | N | | | | |
| 7.3.1 | List of instruments (refer to the process part) The content of the list of devices includes serial number, purpose, device type, P&ID number, pipeline number/ equipment, measurement range, etc. | | E | | | | |
| 7.3.2 | Questionnaires. The content of the questionnaires for devices includes a serial number, process data, data on devices and materials according to generally accepted standards | | N | | | | |
| 7.4 | Calculation reports | | N | | | | |
| 7.5 | Technical specification of the control system and emergency protection system (not including package supplies) for the preparation of technical specification for the system integrator (DCS) | | E | | | | |
| 7.6 | Instrument power supply schemes | | N | | | | |
| 7.7 | Instrument earthing system diagrams | | N | | | | |

| No. | Title of the document / description | ID | BDEP | | Term | | |
|----------|---|----|------|----|------|-----|-----|
| | | CU | Inn | CU | Pre | Adv | Fin |
| 7.8 | Cable route layout drawings | | N | | | | |
| 7.8.1 | Drawing of the location of the main cable route | | N | | | | |
| 7.8.2 | Drawing of the location of secondary (branches) cable routes | | N | | | | |
| 7.9 | Location and number of fire and gas detectors | | N | | | | |
| 7.10 | Equipment room location drawing | | N | | | | |
| 7.11 | Technical specification of analysis systems and analyzers (in addition to the process part) | | N | | | | |
| 7.12 | Device connection drawings | | N | | | | |
| 7.13 | Drawings of the location of devices on the layout plan | | N | | | | |
| 7.14 | Schemes of the heat tracing system of devices (electric heating) | | N | | | | |
| 7.15 | Wiring diagrams | | N | | | | |
| 7.16 | Instruments circuit diagrams | | N | | | | |
| 7.17 | Summary list of alarms and blocking settings | | E | | | | |
| 7.18 | Examples of data sheets for each instrument type obtained from opened data (websites, provided by vendors, catalogues, etc.). The examples won't be filled in and will be provided for informational purposes | | N | | | | |
| 8 | Power supply, electrical part | | N | | | | |
| 8.1 | Description of the electrical scheme. Providing a description of the principle electrical system, guidelines for electrical design, characteristics of the main equipment and recommendations for electrical installation, other | | N | | | | |
| 8.2 | List of electric motors and electric consumers. The list includes indication of operating characteristics such as normal operating state, speed control requirements and reboot requirements, etc. | | N | | | | |
| 8.3 | List of control interlocks, typical motor control schemes and cable connection diagram | | N | | | | |

CONFIDENTIAL INFORMATION The information shall not be copied, reproduced, used, or transferred to other parties without the prior written consent of PT Inovate Teknologi.

| No. | Title of the document / description | ID | BDEP | | Term | | |
|------|---|----|------|----|------|-----|-----|
| | | CU | Inn | CU | Pre | Adv | Fin |
| 8.4 | Drawing of zones by hazard classes (including breakdown into sections) | | N | | | | |
| 8.5 | List of basic electrical equipment. The list includes switches, transformers, compensators, direct current sources, devices for ensuring uninterrupted operation, emergency power devices, power stabilizers, devices for safe start, etc. | | N | | | | |
| 8.6 | Specification for the main electrical equipment, includes 1. composition according to p. 8.5 2. package supplied equipment | | N | | | | |
| 8.7 | Cable list | | N | | | | |
| 8.8 | Single line diagrams (indicating protections) | | N | | | | |
| 8.9 | Autonomous lighting systems, telephone communication, radio communication | | N | | | | |
| 8.10 | Calculations for the electrical system include, but are not limited to: 1. Calculation of short circuit currents; 2. Calculation of normal electrical load; 3. Calculation of the maximum allowable increase in power; 4. Calculation of voltage change (including normal operation, start and auto start) 5. Calculation of voltage change during start-up of powerful consumers; 6. Calculation of harmonic current and voltage 7. Calculation of the dimensions of transformers 8. Calculation of the size of UPS (uninterruptible power supplies) 9. other | | N | | | | |
| 8.11 | Plan of the main cable trays | | N | | | | |
| 8.12 | Electrical substation layout (shows the positions of all electrical equipment in the electrical substation) | | N | | | | |
| 8.13 | Location of electricity consumer plan | | N | | | | |

| No. | Title of the document / description | ID | BDEP | | Term | | |
|----------|--|----|------|----|------|-----|-----|
| | | CU | Inn | CU | Pre | Adv | Fin |
| 8.14 | Standard drawings for the installation of electrical equipment | | N | | | | |
| 8.15 | Standard drawings for installation of lighting and grounding | | N | | | | |
| 8.16 | Arrangement of elements of the lighting system | | N | | | | |
| 8.17 | Location of elements of the grounding system to protect the lighting system | | N | | | | |
| 8.18 | Description of warning systems and fire alarms. Includes a description of the main warning system and fire alarm system, guidance on their development, characteristics of the main equipment and installation procedure | | N | | | | |
| 8.19 | Data for required resources for warning and fire alarm system equipment | | N | | | | |
| 8.20 | Layout plan for communication and fire alarm system equipment | | N | | | | |
| 8.21 | Update of the data lists issued by Innovate Tech by the information from Vendors | | N | | | | |
| 9 | Construction part (concrete and metal constructions) | | N | | | | |
| 9.1 | Determination of the hazard class of production | | N | | | | |
| 9.2 | Plans and location (in excess to the data provided in layout section) in height, division into sections of buildings and structures, including: - location and height of equipment installation; - location and size of stairs | | N | | | | |
| 9.3 | Preliminary load data includes - preliminary loads from equipment; - model, power, rotation speed and weight of dynamic machines | | N | | | | |
| 9.4 | Preliminary placement of equipment, structures and pipeline racks (in excess to the data provided in layout section) | | N | | | | |
| 9.5 | Plans and height arrangement of maintenance platforms for the main and auxiliary equipment | | N | | | | |

CONFIDENTIAL INFORMATION The information shall not be copied, reproduced, used, or transferred to other parties without the prior written consent of PT Innovate Teknologi.

CONFIDENTIAL INFORMATION The information shall not be copied, reproduced, used, or transferred to other parties without the prior written consent of PT Inovate Teknologi.

| No. | Title of the document / description | ID | BDEP | | Term | | |
|------|--|----|------|----|------|-----|-----|
| | | CU | Inn | CU | Pre | Adv | Fin |
| 9.6 | Types of lifting cranes, crane beams, their specification, hook lifting / lowering height and preliminary construction solutions for their implementation | | N | | | | |
| 9.7 | Requirements such as: fireproof, explosion-proof, corrosion-resistant, anti-noise, dust-proof, thermal ventilation, etc. | | N | | | | |
| 9.8 | Development of special solutions for column and dynamic equipment | | N | | | | |
| 9.9 | Plans, location in height and sections for buildings and structures | | N | | | | |
| 9.10 | Determination of loads and impacts | | N | | | | |
| 9.11 | Personnel load data: workload on structural floors | | N | | | | |
| 9.12 | Installation requirements. Special installation requirements | | N | | | | |
| 9.13 | Location of metal structures (in excess to the layout section): - plan, location height and sections of metal structures; - fire resistance requirements; - etc. | | N | | | | |
| 9.14 | Location of the pipeline racks: - plan and height of pipeline racks; - location of the anchor point and compensator contours; - etc. | | N | | | | |
| 9.15 | Data on foundations, for equipment and structures: - dimensions, location height, slopes and openings in foundations and supporting elements; - specification, location and dimensions of anchor bolts; - the location and size of the internal part of the foundation; - cement thickness, strength; - other | | N | | | | |

| No. | Title of the document / description | ID | BDEP | | Term | | |
|-----------|--|----|------|----|------|-----|-----|
| | | CU | Inn | CU | Pre | Adv | Fin |
| 9.16 | Update of the data lists issued by Innovate Tech by the information from Vendors | | N | | | | |
| 10 | Production / Maintenance Personnel | | | | | | |
| 10.1 | Estimation of personnel amount based on main process operations for ISBL units | | E | | | | |
| 11 | HVAC | | | | | | |
| 11.1 | Specification of HVAC, general requirements | | E | | | | |
| 12 | Logistics | | | | | | |
| 12.1 | List of consumables and first fillings | | N | | | | |
| 12.2 | List of equipment weight (refer to equipment part) | | N | | | | |
| 12.3 | Logistic design criteria | | N | | | | |
| 12.4 | Logistic process description | | N | | | | |
| 12.5 | Specification for Loading Equipment | | N | | | | |
| 12.6 | Specification for Storage Equipment | | N | | | | |
| 12.7 | Specification for Transport Equipment | | N | | | | |
| 12.8 | Specification for Weighing and Detection Systems | | N | | | | |
| 13 | Workshops | | | | | | |
| 13.1 | List of consumables and first filling | | N | | | | |
| 13.2 | List of equipment weight | | N | | | | |
| 13.3 | Description Workshop Concept | | N | | | | |
| 13.4 | Specification for Workshop Equipment | | N | | | | |

CONFIDENTIAL INFORMATION The information shall not be copied, reproduced, used, or transferred to other parties without the prior written consent of PT Innovate Teknologi.