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Client

Hanko Pulp Mill Oy

Inquiry Technical Specification

Crude Tall Oil Plant

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# General

This Inquiry is made for the Hanko Pulp Mill Oy. Hanko Mill capacity is to produce 600 000 ADt/a softwood pulp and 350 000 ADt/a hardwood pulp. Design basis for annual production is 950 000 ADt/a. Annual working days are 355 d/a. All departments operate 24 h/d and 7 days/week.

The Vendor is requested to submit a tender for a crude tall oil plant system package according to this inquiry specification and its appendices.

# Design Criteria

## Main Design Data

Table Main design data for Crude Tall Oil plant

|  |  |  |
| --- | --- | --- |
|  | **Unit** |  |
| Tall Oil Capacity | t/h | EPC to determine |
| LP-Steam Pressure | bar (g) | 3..3,5 |
| LP-Steam Temperature | °C | 140 |

Utilities are according to the mill standard S1 (Appendix 2).

## Other Design Criteria

Table Other design criteria for Crude Tall Oil plant

|  |  |  |
| --- | --- | --- |
|  | **Unit** |  |
| Noise limitation for equipment | dBA | 80 |
| Outside temperature, min | °C | -20 |
| Outside temperature, max | °C | 35 |

## Design and Manufacturing

The plant shall be designed and constructed according to the EN standards and norms.

Materials used for construction should be specifically approved as such and material certificates are to be supplied.

The workshop(s) of the Vendor including sub-Vendors shall have the necessary authorization for pressure part manufacturing.

Vendor shall specify all construction materials.

## Checking and Quality Control

During all phases of Project, the Vendor shall have to comply with requirements for Quality Assurance.

All relevant standards shall be observed in checking and quality control.

The measuring points and inspection joints necessary for the examination of the duration of life shall be included.

# Scope of Tender

## General

The tender shall specify all equipment that is needed for easy operation and maintenance as well as services supply in accordance with this specification and its appendices.

The soap handling after the soap collection tank, crude tall oil generation, drying and cooling shall be included. Mother liquor from the tall oil plant shall be returned to evaporation.

The process shall be able to use at the first stage carbon dioxide and/or bisulfite.

## Technical data

Technical data shall be given as defined in the following list, material specifications shall be included.

* Description of Tall oil plant
* Flow sheets
* Preliminary material and heat balances for process flows
* Consumption figures for steams, fresh water, warm water, hot water and chemical
* Consumption figures for sealing water, cooling water, pressurised air (mill, instrument) and electricity
* Equipment specifications (main and auxiliary)
* List of tanks
* List of pumps
* List of insulation
* List of instruments and loops
* List of electric motors
* List of platforms and stairs
* List of spare parts
* Delivery limits
* Layout drawings
* Reference lists

## Delivery Package

The tender shall include all the main equipment for the complete operating line, according to Appendix 7.

All auxiliary systems and equipment needed for operation of the plant shall be included in the delivery as described in Appendix 7.

Necessary platforms and stairs needed for easy operation and maintenance must be included in the delivery and they must be specified.

Separate price for spare parts for two years’ operation.

# Guarantees

## Performance Guarantees and Indicative Values

All standard tests shall be according to the SCAN method or generally applied method.

The guarantees shall be given for operating conditions according to paragraph 2. The Vendor shall in their tender specify guarantee conditions.

The Vendor is requested to give the following performance/indicative figures:

* Capacity of tall oil plant t CTO/h
* Crude tall oil (CTO) yield %
* CTO water content % weight
* CTO acid number
* CTO temperature oC
* Steam consumption kg/ t CTO
* Chemical consumptions kg/ t CTO
* Water consumption kg / t CTO
* NCG amount Nm3/ h
* NCG H2S content %
* Power consumption kW
* Noise level at 1 m from source, max 80 dB(A)
* Availability %

## Mechanical and Other Guarantees

Mechanical guarantees shall be given for time of two (2) years, max. six (6) years for replaced parts.