

## Offer

# Basic and detail engineering new fresh water intake building



## Papeteries Palm, Descartes

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**Provider:**  
**TBP UPCON GmbH**  
Fischerstr. 6a  
85368 Moosburg  
Germany

Matthias Ungerer

**Customer:**  
**HYDROCOP**  
12 boulevard Lazare Carnot  
31000 Toulouse  
France

Eric Jaillon

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## 1 Initial situation and task

Papeteries Palm s.a.s. (in the following called Palm) is operating two paper machines in Descartes. The plant is situated in the centre of France, south of Tours. Today, the production capacity is around 240,000 tonnes per year. Surface water from the river "La Creuse" is taken as fresh water for the production.

HYDROCOP is planning to install a hydropower plant at the place of the currently used fresh water intake building. Hence, it is necessary to erect a new water intake building upstream of the current position. It is intended to build a two-chamber building with 100 % redundancy of the extraction pumps.

TBP Upcon was asked to submit a proposal for basic and detail engineering of this new water intake building. The individual steps required for the requested service are defined in the following offer text.

## 2 Scope of engineering services

### 2.1 Basic engineering

The offered engineering services include the following steps:

- Agreement on location for new water intake building
- Agreement on basic parameters for dimensioning of main equipment (flow rates, required pressure ...)
- Dimensioning of pumps and pipelines
  - o Water extraction pumps
  - o Supply pipe to paper mill
- Preliminary layout planning of water intake building
  - o Arrangement plan of all main components and ancillary units (Scale 1:100)
- Preliminary flow chart (P&I diagram) of water extraction
- Cost estimation
  - o The cost estimation is based on our internal offer database and in individual cases on the inquiry of offers. As a result, a cost accuracy of  $\pm 15\%$  can be assumed.
  - o The cost catalogue is subdivided into the areas of machinery, civil works, electrical system, instrumentation & control, piping and tanks, planning and others

### 2.2 Tender and award of the main components

The offered engineering services include the following steps:

- Preparation of tender documents
- Tendering of main components (maximum 3 suppliers each)
  - o Water extraction pumps
  - o Channel penstocks
- Creation of an offer comparison

## **2.3 Detail engineering**

### **2.3.1 Process and plant engineering**

The offered engineering services include the following steps:

- Final layout planning of water intake building
  - o Arrangement plan of all main components and ancillary units (Scale 1:100)
- Piping
  - o Pipeline drawings for pipes with  $DN \geq 50$
- Final flow chart (P&I diagram) of water extraction
- Preparation of component lists, including quantity framework as tender basis. Tenders are made by Hydrocop:
  - o Equipment list
  - o Drive list
  - o Pump list
  - o Valve list
  - o Pipeline list
- Instrumentation and control
  - o Definition of required instrumentation and control measures:
  - o Basic data list for new instruments
  - o Basic loop list
  - o Verbal process description as basis for programming of DCS
- Civil works
  - o Civil guide drawings and load data for all necessary civil works
- Steel work
  - o Guide plans for all necessary steel constructions, pipe bridges, platforms, walkways and stairs

- without pre-dimensioning of the profiles and static calculations

### **2.3.2 Electrical engineering**

- List of recipients
- List of cables
- List of signals
- Single-line diagram
- Control schemes
- Wiring diagram
- Elevation of switchgear
- Plan routes of cable ladders
- Plan cable router
- Plan of the layout (cabinets and boxes for local control)
- Plan of grounding system

It is assumed that the existing MCC capacity has sufficient reserves.

### **2.3.3 Instrumentation and control planning**

- Technical description
- Loop list
- Instrument index
- Loop diagrams
- Cable list
- Pneumatic tube list
- I/O list including measuring ranges for instrumentation
- Wiring diagrams
- Power supply diagrams for instrumentation
- Documentations to perform local boxes (elevations and interior design, equipment specifications, wiring diagrams)

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- Documentations to perform pneumatic boxes (elevations and interior design, equipment specifications, wiring diagrams)
  - Location drawings of local boxes and control cabinets
  - Routes of cables and wires
  - Bill of materials

It is assumed that the existing DCS has sufficient capacity.

### **3 Exclusions**

The following activities are excluded from the scope of delivery:

- Approval planning
- Expertises
- Geological and geodesic survey of relevant area
- Civil engineering
- Static calculations
- Technical description for electrical engineering
- Selection of electrical equipment – usage of standard equipment
- Control schemes for electrical equipment
- Installation drawings of field instruments with index (hook-up)
- Location drawings of field instruments
- Logical diagrams
- Proposal of DCS display graphics
- Preparation of CE declarations, operating instructions and risk assessments
- As-Built documentation

### **4 Requirements and customer's delivery**

- Project Languages are English (and German)
- Central contact person for the project
- Access to the facility for TBP Upcon employees
- Documentation of existing buildings and equipment

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- Mill standards, i.e. specification of suppliers, materials, typicals, dimensions ...
  - Numbering system
  - Legal regulations

At the time this offer is made, this list may not be complete. If these documents are not received in full or in time, additional engineering costs will be incurred.

## 5 Price

The described engineering services are offered for the lump sum of

**20.500,- €**

Any additional engineering service as well as trips will be charged separately. Therefore, it is possible to calculate with the following daily rates, depending on the qualification of the employee. Currently no on-site days are planned within this project.

Q1	General Manager	1.100 €/d
Q2	Project Manager	1.000 €/d
Q3	Project Engineer	800 €/d
Q4	Designer	630 €/d
Q5	CAD draftsman	480 €/d

The mentioned fixed price and daily rates include incidental expenses such as postage, telephone, fax, copies and plot costs. Travel expenses incurred are charged according to expenditure (0.50 €/km, daily expenses according to valid rates).

The daily rates remain valid until end of 2019.

## 6 Conditions of payment

Billing is based on project progress at the following project milestones. The invoices include the travel costs incurred in the respective period.

50 % after finalisation of basic engineering and delivery of cost estimate

40 % Before delivery of final documentation

10 % after delivery of final documentation

30 days after issuing the invoice, net.

## 7 Validity of quotation

The offer is valid for four weeks.

## 8 Warranties

TBP Upcon GmbH has taken out a professional liability insurance for possible liability claims with a coverage of 3 million EURO for personal injury and 1.5 million EURO flat rate for property damage per damage event. The total benefit for all claims in one insurance year is three times this coverage. We will provide a copy of the insurance confirmation in case of acceptance of order.

The contractor ensures that the process components he has proposed conform to the state of the art and that they are technically suitable for the overall process in terms of selection and dimensioning. A warranty for the process steps or plant components specified by third parties cannot be incurred.

Liability arising from consequential damage such as loss of production, loss of profit, etc. is excluded – as far as legally permissible.

## 9 Final remark

We have prepared our offer based on your request. Our declared goal is the complete satisfaction of our customers. We assure you of our full engagement in the execution of the order and have the appropriate competence.

Moosburg, August 16.09.2019



**TBP UPCON** GmbH

Matthias Ungerer