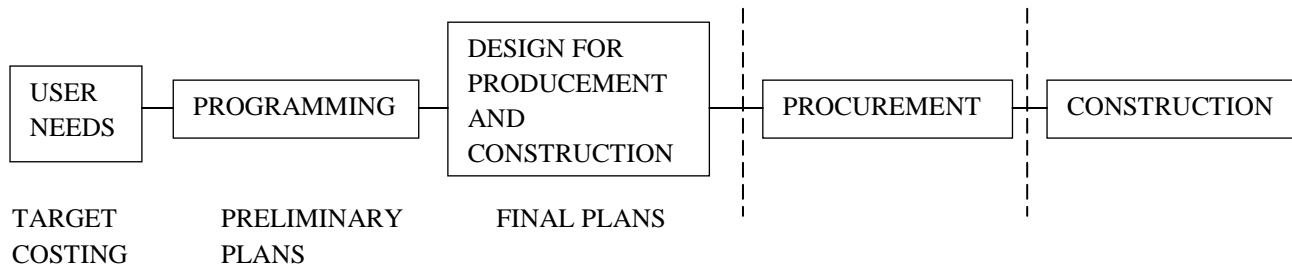


ELECTRICAL SYSTEMS PROCUREMENT BY MEANS OF TARGET COSTING

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BACKGROUND, “DESIGN AND BUY METHOD”

The usual planning procedure of electrical systems in Finland and some other countries is as follows:



PROBLEMS AND CHALLENGES IN THE NORMAL PROCESS

- Today construction in site is often started along with design phase. Information of electrical systems is not final in the phase procurement is wanted to be done → errors in the plans → re-work and waste
- Final drawings require plenty of time and the project cannot reach construction phase → waste/time
- The expertise of the contractor cannot be utilized in the planning phase.
- Every contracting company must do quantity surveying work and only one can get the contract. This is waste-work to all other unelected contracting companies.
- In open building principle, drawings are made ready before facility users get involved in the process. All changes the users make will cause early drawings to become waste.
- If the project stops in the procurement phase, all final drawings made will be waste.

DESIRED POSITION

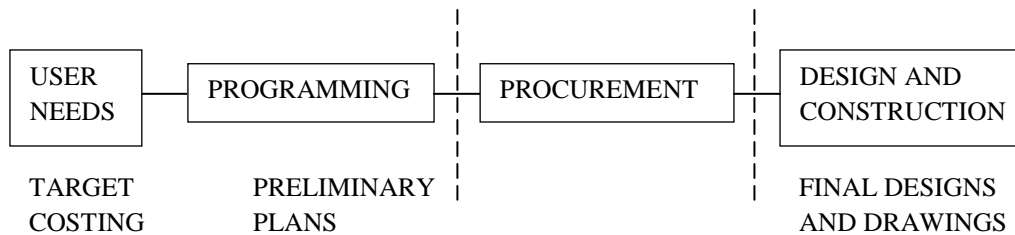
- Needed time and amount of planning work should be as minimal as possible before the procurement phase.
- Documents must be easy and quick to prepare but exact enough for a reliable contract.
- It would be optimal if the information (amounts) from target costing method/model could be utilized in the planning and procurement process.
- Accuracy in the procurement must be sufficient but not exact. There should be a system to make changes to the contract without creating extra costs which were not predetermined.
- Tendering process must be easy, readable and quick to the contractors without plenty of quantity counting.
- Contract pricing should be transparent and divided into small units and elements which are changeable by users.

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SOLUTION, “BUY AND DESIGN” METHOD

To compensate weaknesses in existing planning process and procurement method, a new method is proposed:



In the “buy and design”- method procuring the electrical systems take place without exact drawings. Buying is based on modelled bill of quantities in which the units are always equal or smaller than one whole electrical system which produces service that user needs.

The amounts of the units come from the target costing system where the components are modelled exact enough for the procurement.

The documents for procurement are easy to create and amount of needed documents is as small as possible. Documents for procurement in this method include, for example, explanations, quantity lists, preliminary plans and system diagrams.

PRELIMINARY RESULTS AND EXPERIENCE OF THE CASES

Property owners are fond of the method because it is easy to get alternative prices for different electrical solutions. In the cases the final costs have been within target cost. Bill of quantities and pricing it is transparent and it is easy to make changes to the project without extra costs which were not predetermined. Property owners hope the same method also to other contracts like hvac and structural works.

Contractors like the method because there is much less quantity surveying work and the risks. Problem is that modelled units are not compatible with their price counting software which produces extra work. There are fewer possibilities to charge additional work with higher prices.

Builder consultants had some problems with the new method because it is not directly compatible with their working methods and systems which are based on the traditional method.

CONCLUSIONS

- There are possibilities to make the planning process shorter with this new method.
- There seems to be no extra costs in the contracts with this new method.
- There are possibilities to reduce waste of work in planning and offering phase.
- The prices are transparent and more fixed during the whole process.
- The amount of design work is same but big part of that is moved to construction phase.