Belene NPP
Contracting Approach
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Three main types of project execution and contractual approaches have been applied to energy and industrial projects, including nuclear projects.

1. Turnkey Approach;
2. Split Package (Island) Approach;
The recommended approach is likely to follow that general trend; with some variation between

- Split Package and
- Turnkey approach.
TURNKEY APPROACH

Under this approach, the contracting organization usually consists of:

- Single (individual) contractor,
- Consortium of contractors.

Under the single contractor approach, the contractor is fully responsible for entire plant quality, functionality, completion date, and costs.
**SPLIT PACKAGE APPROACH**

- Under a "split-package" approach, the nuclear power station is divided into two, three, or more packages or lots for which separate EPC turn-key contracts are requested.

- EPC: Engineering, Procurement, and Construction
The split-package approach has been applied to a large extent for the construction of conventional thermal power stations in Europe. Basically, the following types of split-package approach are used:

- 2-package approach (Nuclear Island and Turbine Island)
- 3-package approach (Nuclear Island, Turbine Island and Civil Works)
- 5-package approach (Nuclear, Turbine, Civil works, Electrical and Mechanical BOP)
MULTIPLE PACKAGE APPROACH

- Under the multi-contract approach the scope of the bids covers only major equipment
- On the nuclear steam supply system (NSSS), the fabrication of the nuclear fuel and the turbo-generator (TG) set, respectively
CONTRACTING APPROACH INFLUENCE

Turnkey Approach

- Main Advantage: All responsibilities rest in a Contractor or Consortium

- Main Disadvantage: Limited project control by Owner and restricted Local Participation
CONTRACTING APPROACH INFLUENCE

Split Package Contract Approach

- Main Advantage: More favorable financing conditions and increased Local participation
- Main Disadvantage: Increased interface problems
CONTRACTING APPROACH INFLUENCE

Multiple Package Contract Approach

- Main Advantage: Opportunity to tailor the plant and maximum increase of Local Participation
- Main Disadvantage: Maximum responsibility to the Owner due to interfaces and compatibility of systems and technologies
Belene NPP – Contracting Approach Sep-04

**SELECTION CRITERIA**

- National nuclear program
- Domestic participation policy
- Availability of qualified project personnel
- Engineering and industrial infrastructure
- Potential suppliers / contractors
- Experience with similar projects
- Design criteria and engineering features
SELECTION CRITERIA

- Standardization and proven technology
- Collaboration with nuclear consulting groups or Architect / Engineers
- Government and industrial relationships
- Economic & financial considerations
- Warranty and liability
- International market competition