

INVITATION AND EVALUATION OF BIDS FOR NUCLEAR POWER PLANTS

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CORRIGENDUM

1. Following the Foreword:

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2. Page 8. The last sentence of Section 2.9 is to be disregarded. There is no CD to this publication.
3. Page 17. The last sentence of Section 3.8 is to be disregarded.

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properties of the available NPP designs and the characteristics of the vendor market. In parallel, the bidders will obtain a good understanding of the owner's wishes and requirements before the final BIS is issued.

The owner should arrange contacts with bidders during the bidding process in a structured and controlled way. It is recommended that contact persons are nominated by the owner and each bidder. The owner should arrange regular meetings with each bidder in order to follow the bid preparation and to coordinate the bid evaluation process, as well as separate technical meetings if the need arises.

The bidders should also be treated by the owner in a fair and equal manner. Confidentiality must be respected. All communications between the owner and the bidders should be recorded and filed.

2.8. CONFIDENTIALITY

A NPP is a huge investment with a notable commercial value. Therefore, confidentiality aspects should deserve special attention during the bidding process. It is a common practice to require a confidentiality undertaking in written form from each person participating in the bidding process. Clear confidentiality rules have to be established and communicated.

2.9. IAEA ACCOUNT SYSTEM AND BIDEVAL-3

The IAEA has developed a comprehensive account system that can be utilized in the bidding process. The account system is capable of addressing a spectrum of capital costs, fuel cycle costs and O&M costs, from a complete NPP down to individual systems or components. Since the accounting system has a high degree of flexibility, it can be used with all types of reactors, single or dual purpose power plants, and various contractual approaches.

The IAEA computer program package for economic bid evaluation (BIDEVAL-3) is a set of computer programs designed to assist the owner in the economic evaluation of bids for nuclear power plants.

3. BID INVITATION SPECIFICATIONS

3.1. OBJECTIVES OF THE BIS

The primary objective of the BIS is to provide information to the bidders (the prospective contractors) on the following topics:

- Background and arrangement of the bidding process;
- The owner's technical and commercial requirements;
- The conditions and circumstances under which the contractor will have to perform the tasks;
- The expected structure and contents of the bids;
- The criteria on which the bids will be evaluated.

It is in the interest of the owner to provide complete and precise information in the BIS since this will facilitate the preparation and subsequent evaluation of the bids. It is also in the interest of the owner to promote competition and to encourage each bidder to prepare and present the bid meeting the owner's needs in the best possible way. This means that the owner should provide comprehensive information on all aspects which may affect the project and the owner should clearly express the requirements, conditions and wishes or expectations. On the other hand, the owner should refrain from being too restrictive in the demands and from making the content of the BIS too extensive by including detailed technical descriptions or basic information which is common knowledge.

3.8. STRUCTURES SYSTEMS AND COMPONENTS

In this section of the BIS, the owner should request the bidders to provide a complete and detailed description of systems, structures and components (SSC).

3.8.1. Nuclear island

The owner should request the bidders to include all information on the functional and physical characteristics of structures, systems and components, the design basis, safety considerations, operational functions and incidental behaviours. For example, the information should include the following items:

- Functional description of systems and components;
- Description of design features;
- Flow diagrams;
- Process diagrams;
- Performance data sheets;
- Arrangement drawings;
- Component outline drawings;
- Containment penetrations drawings (electrical and mechanical);
- Component lists;
- Thermodynamic and thermo-hydraulic data;
- System and component design data;
- Operational and test procedures;
- Part load diagrams;
- Startup and shutdown diagrams;
- Transient diagrams.

3.8.2. Conventional island

The owner should request from the bidders corresponding information with respect to the conventional island as in the case of the nuclear island. Additionally, specific information for the turbine and generator, as listed below, should be requested:

- Heat balance diagrams for different power outputs;
- Startup and shutdown diagrams and procedures for turbine and generator;
- Transient diagrams and limit curves;
- Turbine heat rate curve versus generator output;
- Correction curves for turbine heat rate and generator power output;
- Diagrams for the turbine-generator set: reactive capability curve, saturation curves, short-circuit decrement curve, load time curve;
- Drawings for turbine and generator (layout, cross-sections, laydown areas for maintenance).

3.8.3. Balance of plant

The bidders should be requested to provide in this section of the bid the technical description of the balance of plant (BOP). Typical items of the BOP (outside the nuclear and conventional islands) are listed below:

- Protection and fire fighting systems;
- Fencing, access and egress controls;
- Storage facilities;
- Water supply system;
- Ventilation and air-conditioning systems;