



Terms of Reference No. ED.NI.UCB.F.TC.3.2 dd. 15 December 2022  
for Formwork System Supply  
for Tower Crane No. 3.2 (30UCB) Foundation Construction  
EL DABAA NPP

Procurement Scope:  
Formwork System for Tower Crane No. 3.2 (30UCB) Foundation Construction  
EL DABAA NPP

## SECTION 1. Scope of Application

In accordance with the Appendix, Section 8, the formwork system package will be used for construction and installation work in tower crane No. 3.2 (30UCB) foundation construction.

## SECTION 2. Reliability Requirements

The formwork design shall ensure the following:

- strength, stiffness and stability of geometric shapes and dimensions under installation loads, static loads from the weight of concrete and reinforcement, as well as transport and process loads;
- design accuracy of geometric dimensions of cast-in-situ structures and specified quality of their surfaces, depending on the formwork class;
- highest reusability rate and lowest cost per round of use;
- minimal adhesion to the set concrete;
- minimum number of standard sizes of elements, depending on the nature of cast-in-situ structures;
- possibility for load removal from structures of any complexity at any height;
- possibility of pre-assembly and readjustment (changes in overall dimensions or configuration) in the construction site conditions;
- access to the structure at any height for the workers;
- manufacturability and usability of mechanical aids during installation;
- quick detachment of connecting elements;
- minimization of material, labour and energy costs during installation and dismantling;
- convenience of repairs and replacement of out-of-service elements;
- tightness of forming surfaces;
- temperature and humidity conditions required for concrete hardening and design strength development;
- resistance of forming surfaces to chemicals of the concrete mixture;
- quick installation and dismantling of formwork without damaging cast-in-situ structures and formwork elements.

## SECTION 3. Maintenance Requirements

The formwork system supplier shall provide:

- engineering support in the form of the panel-by-panel arrangement of the formwork with the issuance of diagrams according to the drawings provided to the customers within two years from the date of the formwork delivery;
- visit of a technical specialist to the Facility at the Customer's request within 10 business days from the date of the request, for consultations regarding the possibility of using formwork when concreting similar structures and interchangeability of formwork parts and components;
- possibility of organizing a theoretical and practical training when working with the formwork for the organization's employees who work with the formwork. Certificates in the prescribed form shall be issued upon completion of the training. Such services shall be included in the total cost of the proposal.

#### SECTION 4. Safety Requirements

Connecting (fastening) elements of the formwork of all types shall have the means preventing any spontaneous opening, unscrewing, disconnection under the concreting conditions and other operations on the formwork, and maintaining the overall rigidity of the structure.

The formwork design shall ensure protection against falling from height in the form of guardrails. The guardrails shall be provided throughout the length of the outer side of the work site.

#### SECTION 5. Requirements for Supply

The delivery timing shall be according to the contract between the parties, with prior approval by the customer's Directorate for Preparation of Construction Operations.

The formwork shall be supplied in full, according to the initial data given in these Terms of Reference. The Supplier shall deliver the goods using its own resources and at its own expense to: Dabaa Nuclear Power Plant, El Dabaa, Matrouh Governorate 5006201, Egypt.

#### SECTION 6. Requirements for Form of Information Provided

All information shall be provided in English and Russian. The following operational documentation shall be provided with the formwork set:

- formwork datasheet;
- operation instructions (with installation diagrams and permissible loads);
- formwork system certificates;
- layout drawings (plan, sections, views);
- general specification for all delivered goods with images of elements.

#### SECTION 7. Additional Requirements

When executing the commercial proposal, it is necessary to include the volume (m<sup>2</sup>) of formwork cover into the as-built diagram (structural drawing).

The formwork system shall be of a panel frame type.

Foundation of tower crane No. 3.2 (30UCB) has the following dimensions:

Length: 9000 mm

Width: 9000 mm

Height: 800 mm

Concreting of the cast-in-situ base using concrete of grade B45 W8.

The volume of concrete is 64.8 m<sup>3</sup>.

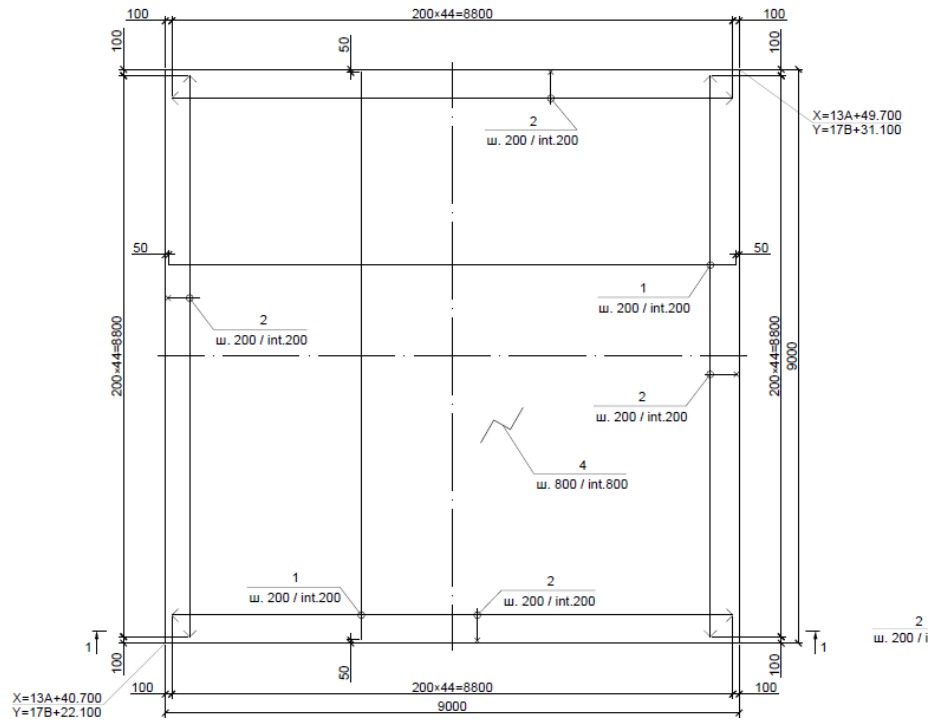
One of the dimensions of the formwork panels shall be preferably 3000 mm for the subsequent use of the formwork when concreting the walls.

Technical questions shall be referred to the Directorate for Preparation of Construction Operations.

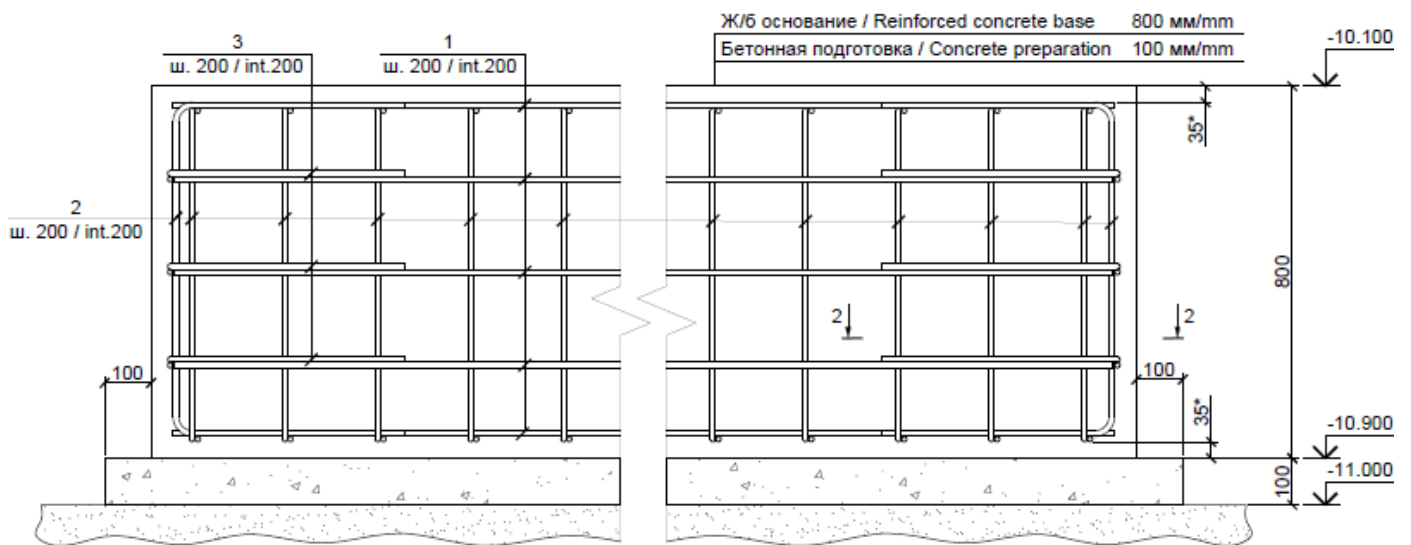
# SECTION 8. List of Appendices

Item No.	Document name	Document designation	Number of sheets
1	Tower crane No. 3.2 (30UCB). Foundation	ED.D.P032.3.0UCB&&&&&&.012.DC.0001.S_C01	10

СХЕМА АРМИРОВАНИЯ ОСНОВАНИЯ  
BASE REINFORCEMENT SCHEME



1-1



<b>APPROVAL SHEET</b> <b>Terms of Reference No. ED.NI.UCB.F.TC.3.2 dd. 15 December 2022 for Formwork System Supply for</b> <b>Tower Crane No. 3.2 (30UCB) Foundation Construction</b> <b>EL DABAA NPP</b>		
<b>POSITION / POZİSYONU</b>	<b>SIGNATURE / İMZA</b>	<b>FULL NAME / ADI SOYADI</b>
	<i>&lt;Signature&gt;</i>	Dmitry Olegovich Sedogin
	<i>&lt;Signature&gt;</i>	Maksim Yevgenyevich Rura
	<i>&lt;Signature&gt;</i>	Grigory Arkadyevich Golosov