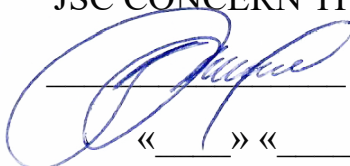


APPROVED BY

First deputy branch director

JSC CONCERN TITAN-2 in Cairo


_____ K. Avvakumov
« _____ » « _____ » 2023

TERMS OF REFERENCE

for the supply of concrete mixes for concreting of Nuclear Island No. 3 and No. 4 of the
El-Dabaa NPP

Cairo
2023

TABLE OF CONTENTS

SECTION 1. GENERAL INFORMATION

Subsection 1.1. Name

Subsection 1.2. Novelty information

Subsection 1.3. OKPD 2 (Russian Classification of Products by Economic Activities) code

SECTION 2. SCOPE OF APPLICATION

SECTION 3. OPERATING CONDITIONS

SECTION 4. TECHNICAL REQUIREMENTS

Subsection 4.1. Technical, functional and qualitative characteristics (consumer properties) of the Goods

Subsection 4.2. Electric power supply requirements

Subsection 4.3. Energy consumption, energy saving and energy efficiency requirements

Subsection 4.4. Reliability requirements

Subsection 4.5. Requirements for components, source and operating materials

Subsection 4.6. Marking requirements

Subsection 4.7. Packaging requirements

Section 5. REQUIREMENTS FOR TERMS OF DELIVERY AND ACCEPTANCE

Subsection 5.1. Delivery and acceptance procedure

Subsection 5.2. Requirements for the transfer to the customer of technical and other documents upon delivery of the Products

SECTION 6. TRANSPORTATION REQUIREMENTS

SECTION 7. STORAGE REQUIREMENTS

SECTION 8. REQUIREMENTS FOR THE SCOPE AND/OR DURATION OF GUARANTEES

SECTION 9. MAINTENANCE REQUIREMENTS

SECTION 10. ENVIRONMENT REQUIREMENTS

SECTION 11. SAFETY REQUIREMENTS

SECTION 12. QUALITY REQUIREMENTS

SECTION 13. ADDITIONAL (OTHER) REQUIREMENTS

SECTION 14. REQUIREMENTS FOR QUANTITY, PLACE AND TIME (PERIODICITY) OF DELIVERY

SECTION 15. DISCLOSED INFORMATION FORMAT REQUIREMENTS

SECTION 16. LIST OF APPENDICES

SECTION 1. GENERAL INFORMATION

Subsection 1.1 Name
Supply of concrete mixes for concreting of Nuclear Island No. 3 and No. 4 of the El-Dabaa NPP, hereinafter referred to as the Goods
Subsection 1.2 Novelty information
Not applicable
Subsection 1.3 OKPD 2 (Russian Classification of Products by Economic Activities) code
23.63.10.000 "Ready for pouring concrete (ready-mixed concrete)"

SECTION 2. SCOPE OF APPLICATION

The Goods are intended for concreting the structures of Nuclear Island No. 3 and No. 4 at the construction site. The work site is located in the territory of the El-Dabaa NPP construction site with a special access control regime in force. The approximate concrete compositions and total demand for concrete are given in Appendix 1.
--

SECTION 3. OPERATING CONDITIONS

The Goods will be used at the operating El-Dabaa NPP construction site.

SECTION 4. TECHNICAL REQUIREMENTS

Subsection 4.1 Technical, functional and qualitative characteristics (consumer properties) of the Goods
The Supplier shall supply the Goods in accordance with the list and characteristics specified in Appendix 1.
Subsection 4.2. Electric power supply requirements
Not applicable
Subsection 4.3. Energy consumption, energy saving and energy efficiency requirements
Not applicable
Subsection 4.4. Reliability requirements
Not applicable
Subsection 4.5. Requirements for components, source and operating materials
Portland cement – GOST 22266-2013 "Sulphate-resistant cements. Technical specifications", GOST 31108-2020 "General construction cements. Technical specifications"; Crushed stone – GOST 8267-93 "Crushed stone and gravel from dense rocks for construction works"; Fine aggregate shall meet the following requirements: natural sand according to GOST 8736-2014 "Sand for construction works. Technical specifications", sand from rock crushing screenings according to GOST 31424 "Non-metallic construction materials from dense rock crushing screenings in crushed stone production. Technical specifications". True density of fine aggregate shall be in the range from 2000 to 2800 kg/m ³ inclusive. Water shall meet the requirements of GOST 23732-2011 "Water for concretes and mortars. Technical specifications"; additives - GOST 24211-2008. Interstate standard. Additives for concretes and mortars. General technical specifications", development of concrete mix compositions according to GOST 27006-2019 "Concretes. Mix design rules" shall be carried out in specialized research organizations. When choosing materials for concrete mix design, it is required to perform their radiological and hygienic assessment. The Goods supplied must have hygiene certificates and certificates of conformity for non-metallic and inert materials, grout fluidifiers, and cements.
Subsection 4.6. Marking requirements
Not applicable
Subsection 4.7. Packaging requirements
Not applicable

Section 5. REQUIREMENTS FOR TERMS OF DELIVERY AND ACCEPTANCE

Subsection 5.1 Delivery and acceptance procedure
--

The acceptance of the goods shall be carried out at the El-Dabaa NPP construction site in the Matrouh province with incoming inspection in terms of quantity and quality.

Subsection 5.2 Requirements for the transfer to the customer of technical and other documents upon delivery of the Products

Concrete mixes shall be accepted in batches. The supporting documentation on the mixes of specified quality shall meet the requirements of p. 8.4 of GOST 7473-2010.

SECTION 6. TRANSPORTATION REQUIREMENTS

Delivery of the concrete mixes to the place of delivery and loading of the Goods shall be carried out at the expense of the Supplier, under the Supplier's responsibility, by the Supplier or with the involvement of third parties.

In accordance with GOST 7473-2010 "Concrete mixes. Technical specifications", the concrete mixes shall be delivered to the Customer by specialized transport designed for the transportation of concrete mixes. If necessary, the Customer shall order (by request) a concrete pump for concrete mix pouring. The Customer shall order the volume of concrete mixes required for its operations by submitting a request in the course of construction and installation works at the site.

The applied methods of concrete mix transportation must exclude the possibility of precipitation ingress, inhomogeneity and deviation from other technological quality indicators established by regulatory documents specified in this ToR.

During transportation, as well as after the start of unloading, it is not allowed to introduce additional amounts of components (cement, aggregates, water and additives) into the concrete mix.

Delivery address: The El-Dabaa NPP site is located in the north of the ARE, on the Mediterranean Sea coast, 340 km north-west of Cairo, 6 km from El Dabaa city, Marsa Matruh province, Arab Republic of Egypt. The exact place of delivery (coordinates) shall be specified in the Customer's request for the Goods.

SECTION 7. STORAGE REQUIREMENTS

The maximum duration of concrete mix transportation must not exceed the time of persistence of its properties, with account for the intensity of laying.

SECTION 8. REQUIREMENTS FOR THE SCOPE AND/OR DURATION OF GUARANTEES

The warranty for the delivered Goods shall be at least twelve (12) months. The warranty period is calculated from the date of signing the Goods Acceptance Certificate.

SECTION 9. MAINTENANCE REQUIREMENTS

Not specified

SECTION 10. ENVIRONMENT REQUIREMENTS

The concrete mixes shall comply with all environmental standards in accordance with the applicable legislation of the Russian Federation and the Arab Republic of Egypt.

SECTION 11. SAFETY REQUIREMENTS

The supplied equipment shall not require special disposal methods, shall not contain harmful materials and substances that can have a negative impact on workers and the environment.

SECTION 12. QUALITY REQUIREMENTS

The supplied concrete mixes shall meet the requirements of this ToR in terms of quality, the quality of the mixes shall be determined in accordance with p. 7.3 of GOST 7473-2010 "Concrete mixes. Technical specifications".

SECTION 13. ADDITIONAL (OTHER) REQUIREMENTS

None

SECTION 14. REQUIREMENTS FOR QUANTITY, PLACE AND TIME (PERIODICITY) OF DELIVERY

Total volume of the concrete mixes **18 221,63 m³**. Delivery address:

The El-Dabaa NPP site is located in the north of the ARE, on the Mediterranean Sea coast, 340 km north-west of Cairo, 6 km from El Dabaa city, Marsa Matruh province, Arab Republic of Egypt. The exact place of delivery (coordinates) shall be specified in the Customer's request for the Goods. Delivered in batches on request, with account for the required intensity.


SECTION 15. DISCLOSED INFORMATION FORMAT REQUIREMENTS

Each batch of concrete mixes must have a data sheet in Russian and English in two copies in print format.

SECTION 16. LIST OF APPENDICES

Pos. No.	Appendix name	Page number
1	Demand for concrete	—

Terms of reference developed by:

/  / D.O. Sedogin

Appendix 1 to the Terms of Reference for the supply of concrete mixes for concreting of Nuclear Island No. 3 and No. 4 of the El-Dabaa NPP

Demand for concrete

№	Concrete class and mortar grade	UoM	Qty	Internal order	KKS/CD	Note
1.	Concrete class B10 (or C15 as per ECP 203-2007)	m ³	27,40	KTI00000016 dated 18/01/2023	ED.D.P001.0.0UXD&&&&&&&.012.DC.0009.S(C01)	Construction and assembling base. General contractor's storage facilities. Administration and amenity building. Object 2.9
2.	Concrete class B25 based on sulphate-resistant cement GOST 22266-2013 (or C30 as per ECP 203-2007 based on sulphate-resistant cement ASTM C150 (or ES4756-1-2013 / EN197-1-2011))	m ³	137,74	KTI00000016 dated 18/01/2023	ED.D.P001.0.0UXD&&&&&&&.012.DC.0009.S(C01)	Construction and assembling base. General contractor's storage facilities. Administration and amenity building. Object 2.9
3.	Concrete class B25 based on sulphate-resistant cement GOST 22266-2013 (or C30 as per ECP 203-2007 based on sulphate-resistant cement ASTM C150 (or ES4756-1-2013 / EN197-1-2011))	m ³	316,80	KTI00000239 dated 12/12/2022	ED.D.P001.0.0UXP&&&&&&&.010.DC.0007.S(C01)	Construction and assembling base. Complex of hydro-engineering works. Outdoor storage area. Object 12.4
4.	Concrete class B45W8-XA3-XS3 based on sulphate-resistant cement	m ³	4 923,10	KTI00000049 dated 09/02/2023	ED.D.P000.1.0UJA99&&&&&&&.012.DC.0003.S(C01)	Reactor Building (30UJA). Foundation Slab at the Elevation -19.300.
5.	Concrete class B45W8-XA3-XS3 based on sulphate-resistant cement	m ³	4 548,60	KTI00000144 dated 28/10/2022	ED.D.P000.1.0UJE99&&&&&&&.012.DC.0003.E(C01)	Steam Cell (30UJE). Foundation Slab at the Elevation -19.300.
6.	Concrete class B45W8-XA3-XS3 based on sulphate-resistant cement	m ³	8 004,90	KTI00000133 dated 28/10/2022	ED.D.P000.1.0UKD99&&&&&&&.012.DC.0002.E(C01)	Safety Building (30UKD). Foundation Slab at the Elevation -19.300.
7.	Concrete B45W8 as per GOST 26633-2015 (or C45W8 ECP 203-2007) based on sulphate-resistant cement GOST 22266-2013 (or ASTM C150)	m ³	187,10	KTI00000001 dated 02/01/2023	ED.D.P032.3.0UJG&&&&&&&.012.DC.0001.S(C01)	Tower crane No.3.1 (30UJG). Foundation
8.	Concrete B45W8 as per GOST 26633-2015 (or C45W8 ECP 203-2007) based on sulphate-resistant cement ASTM C150 (or ES4756-1-2013 / EN197-1-2011))	m ³	75,99	KTI00000006 dated 12/01/2023	ED.D.P032.3.0UCB&&&&&&&.012.DC.0001.S(C01)	Tower crane No.3.1 (30UCB). Foundation
	Total	m ³	18 221,63			

¹ – total preliminary demand for concrete

² – preliminary volumes; the final volumes shall be specified in requests for concrete mixes