Republic of Bulgaria
Executive Agency
Bulgarian Accreditation Service

Signatory to the EA Multilateral Agreement in this fied

ORDER

№ А 95
Sofia, 09.02.2022

Pursuant to Art. 10, para. 1, item 4, Art. 28, para. 1 of the Law on National Accreditation of Conformity Assessment Bodies and item 6 of BAS QR 2 Accreditation Procedure in connection with the open procedure reg. № 394/172 ЛИ/ПА/07.06.2021, Assessment report reg. № 394/172 ЛИ/ПА/9/В/19.11.2021, Declarations reg. № 394/172 ЛИ/ПА/8/П/19.11.2021, Annex reg. № 394/172 ЛИ/ПА/11/В/19.11.2021 and Statement of the Accreditation Commission reg. № 394/172 ЛИ/ПА/12/В/19.01.2022, I hereby

RE-ACCREDIT

KOZLODUY NPP JSC
LABORATORY FOR TESTING AND CALIBRATION
ENGINEERING CHEMISTRY SECTION

Management and laboratory address:
3321 Kozloduy NPP JSC, Safety and Quality Directorate, Quality Division

To perform testing of:

Type of the scope: *flexible for part of the scope*

№	Tested products	Type of test / characteristics	Test methods (standard/validated method)
1	2	3	4
1	Water treatment solutions [1.1] Solutions of metals/ alloys [1.2] Solutions of chemical substances	*For [1.1], [1.2]* iron-Fe (1), (2), (3) copper-Cu (1), (2), (3) zinc-Zn (1), (2), (3) calcium-Ca (1), (2), (3) nickel-Ni (1), (2), (3) chromium-Cr (1), (2), (3) cobalt-Co (1), (2), (3) aluminium-Al (1), (2) zirconium-Zr (1) strontium-Sr (1) magnesium-Mg (1), (2), (3) silver-Ag (1), (2), (3) gold-Au (1), (2), (3) manganese-Mn (1), (2), (3)	(1) Validated Method-01:2013 (2) Validated Method - 02:2013 (3) Validated Method - 03:2013

1797 Sofia, Dr. G.M. Dimitrov Blvd. 52 A, floor 7
Tel. 02 976 6401, Fax: 02 976 6415
e-mail: office@nab-bas.bg

Type of the scope: *flexible for part of the scope*			
№	**Tested products**	**Type of test / characteristics**	**Test methods (standard/validated method)**
1	**2**	**3**	**4**
		sulphur-S (1) phosphorus-P (1) arsenic-As (1) selenium-Se (1); boron-B (1); titanium-Ti (1); lead- Pb (1), (2), (3); silicon- Si (SiO_2)(1); barium - Ba (1); beryllium - Be (1); bismuth-Bi (1); antimony-Sb (1); tin - Sn (1); platinum - Pt (1); sodium - Na (1); potassium -K (1); lithium -Li (1); cadmium - Cd (1); niobium - (Nb) (1); vanadium- V(1); molybdenum- Mo (1); tungsten-W (1); mercury-Hg (1);	
2	Waters [2.1] Waters from process streams in nuclear power plants/thermal power plants/hydropower plants [2.2] Waste waters [2.3] Waters from rivers and streams [2.4] Groundwaters	For [2.1], [2.2], [2.3] and [2.4] copper-Cu (1), (2), (3), (4), (5); zinc-Zn (1), (2), (3), (4) (5); calcium-Ca (1), (3), (4) (5); nickel-Ni (1), (2), (3), (4), (5); chromium-Cr (1), (2), (3), (4), (5); cobalt-Co (1), (2), (3), (4) (5); iron-Fe (total/dissolved) (1), (2), (3), (4), (5); gold-Au (3), (4), (5); aluminium-Al (1), (2), (3), (4); zirconium-Zr (1), (3); strontium-Sr (1),(3); magnesium-Mg (1), (3), (4), (5); silver-Ag (1), (2), (3), (4) (5); manganese-Mn (total/dissolved) (1), (2), (3), (4), (5); sulphur-S (1), (3); total phosphorus (like PO_4)(1), (3); arsenic-As (1), (3); selenium-Se (1), (3); boron-B (1), (3); titanium-Ti (1), (3); lead-Pb (1), (2), (3), (4), (5); silicon-Si (SiO_2) (1), (3);	(1) БДС EN ISO 11885 (2) БДС EN ISO 15586 (3) Validated Method - 01:2013 (4) Validated Method - 02:2013 (5) Validated Method - 03:2013

Type of the scope: *flexible for part of the scope*			
№	**Tested products**	**Type of test / characteristics**	**Test methods (standard/validated method)**
1	**2**	**3**	**4**
		barium-Ba (1), (3); beryllium-Be (1), (3); bismuth-Bi (1), (3); antimony-Sb (1), (3); tin-Sn (1), (3); platinum-Pt (3); sodium-Na (1),(3); potassium-K (1), (3); lithium-Li (1), (3); cadmium-Cd (1), (3); niobium-Nb (3); vanadium-V (1), (3); molybdenum-Mo (1), (3); tungsten-W (1), (3); mercury-Hg (3)	
		For [2.1], [2.2], [2.3] and [2.4] bromides/chlorides/fluorides/ sulphates/nitrates/nitrate nitrogen/nitrites/nitrite nitrogen/phosphates/phosphate phosphorus	БДС EN ISO 10304- 1
		For [2.1], [2.2], [2.3] and [2.4] pH/Active reaction	БДС 17.1.4.27
		For [2.1], [2.2], [2.3] and [2.4] Petroleum and oil products	Validated Method - 04:2016
		For [2.1], [2.2], [2.3] and [2.4] Total residual chlorine	Validated Method - 05:2017
		For [2.1], [2.2], [2.3] and [2.4] Anion surface-active agents/aSAA	Validated Method - 06:2017
		For [2.1], [2.2], [2.3] and [2.4] Temperature	БДС 17.1.4.01, item 4
		For [2.1], [2.2], [2.3] and [2.4] Electrical conductivity	БДС EN 27888
		For [2.2], [2.3] and [2.4] Biochemical oxygen demand after five days / BOD_5	БДС EN ISO 5815-1 БДС EN 1899-2
		For [2.2], [2.3] and [2.4] Chemical oxygen demand /COD	ISO 15705
		For [2.2], [2.3] and [2.4] Ammonia/ammonium/ammonium ion/ammonia nitrogen	БДС ISO 7150-1
		For [2.2], [2.3] and [2.4] Suspended solids/undissolved substances	БДС EN 872

To perform sampling of:

Type of scope: *Flexible*		
№	**Product**	**Sampling methods (standard/validated method)**
1	**2**	**3**
1.	Waste Waters	БДС ISO 5667-10
2.	Waters from Rivers and Streams	БДС EN ISO 5667-6
3.	Groundwaters	БДС ISO 5667-11
4.	Water samples from process streams in NPP/TPP/HPP	БДС ISO 5667-7
5.	Reagents and pure substances	БДС 6357

Flexible scope: *Implementing a new version of standards/documents or standards/documents replacing them is allowed. An updated list of standards/documents and their dated versions is provided by CAB.*

Fixed scope

References:

Validated Method – 01:2013 Method for testing of iron (Fe), copper (Cu), zinc (Zn), calcium (Ca), nickel (Ni), chromium (Cr), cobalt (Co), aluminium (Al), zirconium (Zr), strontium (Sr), magnesium (Mg), silver (Ag), gold (Au), manganese (Mn), sulphur (S), phosphorus (P), arsenic (As), selenium (Se), boron (B), titanium (Ti), lead (Pb), silicon (Si), antimony (Sb), tin (Sn), platinum (Pt), sodium (Na), potassium (K), lithium (Li), cadmium (Cd), niobium (Nb), vanadium (V), molybdenum (Mo), tungsten (W), mercury (Hg), barium (Ba), beryllium (Be), bismuth (Bi) in solutions of metals, alloys, corrosion products, deposits on process equipment metal surfaces, lubricants, inorganic acids and bases, packings, gaskets, glues, detergents, chemical solutions, decontamination and chemical purification, pre-start flushing and flushing of operating equipment, water samples from process streams in nuclear power plants, thermal power plants, hydropower plants, waste waters, water samples from rivers, streams and groundwater sources (groundwaters) with inductively coupled plasma optical emission spectrometer.

Validated Method – 02:2013 Method for testing of iron (Fe), copper (Cu), zinc (Zn), calcium (Ca), nickel (Ni), chromium (Cr), cobalt (Co), aluminium (Al), magnesium (Mg), silver (Ag), gold (Au), manganese (Mn), lead (Pb) in solutions of metals, alloys, corrosion products, deposits on process equipment metal surfaces, lubricants, inorganic acids and bases, packings, gaskets, glues, detergents, chemical solutions, decontamination and chemical purification, pre-start flushing and flushing of operating equipment, water samples from process streams in nuclear power plants, thermal power plants, hydropower plants, waste waters, water samples from rivers, streams and groundwater sources (groudwaters) with graphite tube atomic absorption spectrometer.

Validated Method – 03:2013 Method for testing of iron (Fe), copper (Cu), zinc (Zn), calcium (Ca), nickel (Ni), chromium (Cr), cobalt (Co), magnesium (Mg), silver (Ag), gold (Au), manganese (Mn), lead (Pb) in solutions of metals, alloys, corrosion products, deposits on process equipment metal surfaces, lubricants, inorganic acids and bases, packings, gaskets, glues, detergents, chemical solutions, decontamination and chemical purification, pre-start flushing and flushing of operating equipment, water samples from process streams in nuclear power plants, thermal power plants, hydropower plants, waste waters, water samples from rivers, streams and groundwater sources (groundwaters) with flame atomic absorption spectrometer.

Validated Method – 04:2016 Method for determination the content of petroleum and oil products in waters through infrared spectrometry in water samples from process streams in nuclear power

plants, thermal power plants, hydropower plants, waste waters and water samples from rivers, streams and groundwater sources

Validated Method – 05:2017 Method for spectrometric analysis of total residual chlorine in water samples from process streams in nuclear power plants, thermal power plants, hydropower plants, waste waters and water samples from rivers, streams and groundwater sources (groundwaters)

Validated Method – 06:2017 Method for spectrometric analysis of anion surface-active agents (aSAA) in water samples from process streams in nuclear power plants, thermal power plants, hydropower plants, waste waters and water samples from rivers, streams and groundwater sources (groundwaters)

I ORDER

To issue the Certificate of accreditation reg. № 172 ЛИ / 09.02.2022 valid until 09.02.2026 and this order as an integral part of it.

The Certificate of accreditation with the enclosure should be obtained from the manager / representative of the KOZLODUY NPP JSC., Manager of the Laboratory for Testing and Calibration (LTC - ECH), Engineering Chemistry Section, or other authorized person in the office of EA BAS.

Upon receipt of the certificate issued and enclosure, the accredited CAB is obliged to return to EA BAS the originals of the certificate of accreditation with reg. № 172 ЛИ/10.02.2021, valid untill 05.01.2022 and its enclosure EA BAS order № А 51/10.02.2021 as an integral part of it.

This order shall be notified to the KOZLODUY NPP JSC., within 3(three) days from its issuance.

Eng. Irena Borislavova
Executive Director of EA BAS