



Republic of Bulgaria
Executive Agency
Bulgarian Accreditation Service



Signatory to the EA Multilateral Agreement in this field

ORDER

No. A 17

Sofia, 16.01.2023

Pursuant to Art. 10, para. 1, item 4 and Art. 28, para. 1 of the Law on the National Accreditation of Conformity Assessment Bodies and the relevant item 6 of the BAS QR 2 Accreditation Procedure in connection with an open procedure reg. № 189/80 OKC/ПА/PO/25.05.2022, assessment report reg. entry № 189/80 OKC/ПА/PO/7/B/ 05.10.2022 and statement of the Accreditation Commission int. № 189/80 OKC/ПА/PO/B/06.01.2023, I hereby

RE-ACCREDIT

INSPECTION BODY OF TYPE C "ANSYST" at "ANSYST 98" OOD, Sofia

Management address:

1510 Sofia, "Hadzhi Dimitar" district, bl. 19, entr. B, fl. 2

Office address:

1220 Sofia, 6 "Istoria Slavyanobalgarska" Blvd.

To perform inspection of:

Scope type: *Flexible					
№	Field of Inspection	Type of Inspection	Parameter of Inspection / Characteristic	Test and Measurement Methods Used During Inspection, Inspection Procedure	Ordinances, Standards, Specifications, Schemes
1	2	3	4	5	6
1.	Equipment made entirely from metallic materials: • Pipes - technological pipes and pipelines; • High pressure and low pressure boilers; • Pressure vessels; • Steam turbines and parts thereof; • Tanks and cisterns; • Gas equipment and installations; • Machines and structures.	Initial and periodic. New and in use products and facilities.	• creep damage; • fatigue damage; to determine expected in-service life Through calculation methods of testing	ПН 7.1-1; БДС EN 12952-4; БДС EN 12952-3; БДС EN 12952-2; БДС EN 13480-2; БДС EN 13480-3; БДС EN 13445-2+A1; БДС EN 13445-3; БДС EN 14015; ИКМОТЦЕКТТТ ¹⁾ – HEK 1996r; CO 153-34.17.440 ⁷⁾ ; CO 34.17.452 ⁸⁾ ; СТО 17230282.27.100.005 ⁶⁾	ИКМОТЦЕКТТТ ¹⁾ – HEK 1996r; БДС EN 12952-4; CO 153-34.17.440 ⁷⁾ ; CO 34.17.452 ⁸⁾ ; СТО 17230282.27.100.00 5 ⁶⁾ TC ¹¹⁾

1797 Sofia, Dr. G.M. Dimitrov Blvd. 52 A, floor 7

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2.	Metals and metallic products - sheets, pipes, bars castings, forgings used for manufacturing of: • Pipes - technological pipes and pipelines; • High pressure and low pressure boilers; • Pressure vessels; • Steam turbines and parts thereof; • Tanks and cisterns; • Gas equipment and installations; • Machines and structures. base metal, welded joints and samples of them.	Initial and periodic. New and in use products and facilities.	• nonmetallic inclusions - class Through metallographic testing • grain size - class Through metallographic testing • degree of banding - class Through metallographic testing • widmanstatten structure - class Through metallographic testing • percentage of the pearlite and the ferrite content in the structure - class Through metallographic testing • degree of spheroidizing - class Through metallographic testing • micro defects (pores) due to creep - damage class Through metallographic testing • macrostructure imperfections Through metallographic testing	ПН 7.1-2; БДС 3326; БДС EN 10247; ГОСТ 1778; ASTM E45. ПН 7.1-2; БДС 11174; БДС EN ISO 643; ГОСТ 5639; ASTM E112. ПН 7.1-2; БДС 14254; ГОСТ 5640; ТУ 14-3-460³⁾; ASTM E1268. ПН 7.1-2; БДС 14254; ГОСТ 5640; ТУ 14-3-460³⁾. ПН 7.1-2; БДС 3690; ТУ 14-3-460³⁾. ПН 7.1-2; CO 153-34.17.440⁷⁾; СТО 17230282.27.100.005⁶⁾ ПН 7.1-2; VGB-S-517-00²⁾; CO 153-34.17.440⁷⁾; СТО 17230282.27.100.005⁶⁾ ПН 7.1-2; БДС 12730; БДС EN ISO 5817; БДС EN ISO 17639; БДС EN ISO 6520-1; БДС EN ISO 6520-2; ГОСТ 10243; ASTM E340; ASTM E381.	ТУ 14-3-460³⁾; ТС¹¹⁾ ТУ 14-3-460³⁾; ТС¹¹⁾ ТУ 14-3-460³⁾; ТС¹¹⁾ ТУ 14-3-460³⁾; ТС¹¹⁾ ТУ 14-3-460³⁾; БДС EN 12952-5; БДС EN 13445-4; ТС¹¹⁾ CO 153-34.17.440⁷⁾; СТО 17230282.27.100.005⁶⁾; ТС¹¹⁾ CO 153-34.17.440⁷⁾; БДС EN 12952-5; БДС EN 13445-4; БДС EN ISO 15614-7; СТО 17230282.27.100.005⁶⁾; ТС¹¹⁾ БДС EN ISO 5817; ТУ 14-3-460³⁾; БДС EN 12952-5; БДС EN 12952-6; БДС EN 12953-5; БДС EN 13445-4; БДС EN 14208; БДС EN ISO 15614-1; БДС EN ISO 15614-2;
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					БДС EN ISO 15614-7; БДС EN ISO 15614-8; TC ¹¹⁾
3.	Metals and metallic products - sheets, pipes, bars castings, forgings used for manufacturing of: • Pipes - technological pipes and pipelines; • High pressure and low pressure boilers; • Pressure vessels; • Steam turbines and parts thereof; • Tanks and cisterns; • Gas equipment and installations; • Machines and structures. base metal, welded joints and samples of them.	Initial and periodic. New and in use products and facilities.	• Hardness: HB (Brinell); HV (Vickers); HRB (Rockwell B); HRC (Rockwell C). Through hardness testing	ПН 7.1-4; ASTM A956; БДС EN ISO 18265; БДС EN ISO 6507-1; БДС EN ISO 9015-1.	ГОСТ 20700; ТУ 14-3-460³⁾; СО 34.17.310⁹⁾; СО 34.17.435¹⁰⁾; СО 153-34.17.440⁷⁾; БДС EN 12952-5; БДС EN 12952-6; БДС EN 13445-4; БДС EN 10088-2; БДС EN 10088-3; БДС EN ISO 683-1; БДС EN ISO 683-2; БДС EN ISO 15614-1; БДС EN ISO 15614-7; БДС EN ISO 15614-8; СТО 17230282.27.100.00 5⁶⁾ TC¹¹⁾
4.	Metals and metallic products - sheets, pipes, bars castings, forgings used for manufacturing of: • Pipes - technological pipes and pipelines; • High pressure and low pressure boilers; • Pressure vessels; • Steam turbines and parts thereof; • Tanks and cisterns; • Gas equipment and installations; • Machines and structures. base metal, welded joints and samples of them.	Initial and periodic. New and in use products and facilities.	• absorbed energy • impact toughness Through Charpy pendulum impact test	ПН 7.1-5; БДС EN ISO 148-1; ГОСТ 9454; БДС EN ISO 9016.	БДС EN 10028-2; БДС EN 10028-3; БДС EN 10028-4; БДС EN 10028-5; БДС EN 10028-6; БДС EN 10028-7; БДС EN 10025-2; БДС EN 10025-3; БДС EN 10025-4; БДС EN 10025-5; БДС EN 10025-6+A1; БДС EN 10216-1; БДС EN 10216-2; БДС EN 10216-3; БДС EN 10216-4; БДС EN 10216-5; БДС EN 10217-1+A1; БДС EN 10217-2+A1; БДС EN 10217-3+A1; БДС EN 10217-4+A1; БДС EN 10217-5+A1; БДС EN 10217-6+A1; БДС EN 10217-7; БДС EN 10222-2; БДС EN 10222-5; БДС EN 10213; БДС EN 10269; БДС EN 10272; БДС EN 10273; ГОСТ 5520; ГОСТ 5582;

					ГОСТ 7350; ГОСТ 19282; ГОСТ 550; ГОСТ 8731; ГОСТ 8733; ТУ 14-3-460 ³⁾ ; ТУ 14-3Р-55 ⁴⁾ ; ТУ 14-3-190 ⁵⁾ ; ГОСТ 20700; СО 34.17.435 ¹⁰⁾ ; СО 153-34.17.440 ⁷⁾ ; БДС EN 12952-5; БДС EN 12952-6; БДС EN 12953-5; БДС EN 13480-2; БДС EN 13445-2; БДС EN 13445-4; БДС EN 14015; БДС EN 14208; БДС EN 10088-2; БДС EN 10088-3; БДС EN ISO 683-1 БДС EN ISO 683-2; БДС EN ISO 15614-1; БДС EN 10149-1 – т. 7.4.1; т. 7.4.2; т. 8.5.2.3; т. 8.6.2.2; т. 11.5) БДС EN 10149-2 – т. 7.4; т. 8.5; Пр. А БДС EN 10149-3 – т. 7.4; т. 8.5; Пр. А БДС EN 10210-1 – т. 6.6; т. 8.2.2.3; т. 8.2.3.2; т. 9.2.3.2; tables А.3 и В.3; Пр. С БДС EN 10219-1 – т. 6.7; т. 8.2.2.3; т. 8.2.3.2; т. 9.2.3; tables А.3 и В.4; Пр. С БДС EN 10250-1 – т. 10 БДС EN 10250-2 – т. 6.1; tables 2 и 3 БДС EN 10250-3 – т. 5; table 3 БДС EN 10250-4 – т. 5; tables 5, 6 и 7 БДС EN 10297-1 – т. 8.3; tables 9 и 13; т. 10.2.3; т. 11.2 БДС EN ISO 3183 – т. 9.8; т. 10.2.3.3; т. 10.2.4.3 СТО 17230282.27.100.00 5 ⁶⁾ ТС ¹¹⁾
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			• tensile strength • yield strength • percentage elongation • percentage reduction of area Through tensile testing	ПП 7.1-6; БДС EN ISO 6892-1; БДС EN ISO 6892-2; БДС EN ISO 4136; БДС EN 10164.	БДС EN 10028-2; БДС EN 10028-3; БДС EN 10028-4; БДС EN 10028-5; БДС EN 10028-6; БДС EN 10028-7; БДС EN 10025-2; БДС EN 10025-3; БДС EN 10025-4; БДС EN 10025-5; БДС EN 10025-6+A1; БДС EN 10216-1; БДС EN 10216-2; БДС EN 10216-3; БДС EN 10216-4; БДС EN 10216-5; БДС EN 10217-1+A1; БДС EN 10217-2+A1; БДС EN 10217-3+A1; БДС EN 10217-4+A1; БДС EN 10217-5+A1; БДС EN 10217-6+A1; БДС EN 10217-7; БДС EN 10222-2; БДС EN 10222-5; БДС EN 10213; БДС EN 10269; БДС EN 10272; БДС EN 10273; ГОСТ 5520; ГОСТ 5582; ГОСТ 7350; ГОСТ 19282; ГОСТ 550; ГОСТ 8731; ГОСТ 8733; ТУ 14-3-460³⁾; ТУ 14-3Р-55⁴⁾; ТУ 14-3-190⁵⁾; ГОСТ 20700; СО 34.17.435¹⁰⁾; СО 153-34.17.440⁷⁾; БДС EN 12952-5; БДС EN 12952-6; БДС EN 12953-5; БДС EN 13480-2; БДС EN 13445-2; БДС EN 13445-4; БДС EN 14208; БДС EN 10164; БДС EN 10088-2; БДС EN 10088-3; БДС EN ISO 683-1

					БДС EN ISO 683-2; БДС EN ISO 15614-1; БДС EN ISO 15614-2; БДС EN 10149-1 – т. 7.4.1; т. 8.5.2.2; т. 8.6.2.1 БДС EN 10149-2 – т. 7.4; т. 8.5; table 2; Пр. А БДС EN 10149-3 – т. 7.4; т. 8.5; table 2; Пр. А БДС EN 10210-1 – т. 6.6; т. 8.2.2.2; т. 8.2.3; т. 9.2.2; tables A.3 и B.3; Пр. С БДС EN 10219-1 – т. 6.7; т. 8.2.2.2; т. 8.2.3; т. 9.2.2; tables A.3 и B.4; Пр. С БДС EN 10250-1 – т. 10 БДС EN 10250-2 – т. 6.1; tables 2 и 3 БДС EN 10250-3 – т. 5; table 3 БДС EN 10250-4 – т. 5; tables 5, 6 и 7 БДС EN 10297-1 – т. 8.3; tables 8, 9, 10, 11 и 12; т. 10.2.2; т. 11.1 БДС EN 10297-2 – т. 8.3; tables 6, 7, 8 и 9; т. 11.1 БДС EN 10305-1 – т. 8.3; т. 10.2.1.2; т. 11.1 БДС EN 10305-2 – т. 8.3; т. 10.2.1.2; т. 11.1 БДС EN 10305-3 – т. 8.3; т. 10.2.1.2; т. 11.1 БДС EN 10305-4 – т. 8.3; т. 10.2.2; т. 11.1 БДС EN 10305-5 – т. 8.3; т. 10.2.2; т. 11.1 БДС EN 10305-6 – т. 8.3; т. 10.2.2; т. 11.1 БДС EN ISO 3183 – т. 9.3; т. 10.2.3.2; т. 10.2.4.2
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					CTO 17230282.27.100. 005 ⁶⁾ TC ¹¹⁾
			• presence of cracks Through bend testing	ПН 7.1-7; БДС EN ISO 7438; БДС EN ISO 5173+A1; БДС EN ISO 15614-1; БДС EN ISO 15614-7; ГОСТ 5520; ГОСТ 5582; ГОСТ 7350; ГОСТ 19282.	БДС EN ISO 15614-1; БДС EN ISO 15614-7; ГОСТ 5520; ГОСТ 5582; ГОСТ 7350; ГОСТ 19282; БДС EN 12952-6; БДС EN 12953-5; БДС EN 13480-2; БДС EN 13445-2; БДС EN 13445-4; БДС EN 14208; БДС EN ISO 15614-2; БДС EN 10149-1 – т. 8.6.2.3 БДС EN 10149-2 – т. 8.5.1; table 2; Пр. А БДС EN 10149-3 – т. 8.5.2; table 2; Пр. А БДС EN ISO 3183 – т. 9.5; т. 10.2.3.6; т. 10.2.4.6 TC ¹¹⁾
5.	Metal pipes	Initial and periodic. New and in use products and facilities.	• presence of cracks Through flattening testing	ПН 7.1-8; БДС EN ISO 8492; БДС EN 10216-2; БДС EN 10216-3; БДС EN 10216-4; БДС EN 10216-5; ГОСТ 550; ГОСТ 8731; ГОСТ 8733; ТУ 14-3-460 ³⁾ ; ТУ 14-3P-55 ⁴⁾ ; ТУ 14-3-190 ⁵⁾ .	БДС EN 10216-2; БДС EN 10216-3; БДС EN 10216-4; БДС EN 10216-5; ГОСТ 550; ГОСТ 8731; ГОСТ 8733; ТУ 14-3-460 ³⁾ ; ТУ 14-3P-55 ⁴⁾ ; ТУ 14-3-190 ⁵⁾ ; БДС EN 10305-1 – т. 11.2 БДС EN 10305-2 – т. 11.2 БДС EN 10305-3 – т. 11.2 БДС EN 10305-4 – т. 11.2 БДС EN ISO 3183 – т. 9.6; т. 10.2.3.7; т. 10.2.4.7 TC ¹¹⁾

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

1. ИКМОТЩЕКТТТ - Instruction of NEK for metal inspection and assessment of technical condition of elements and systems of boilers, turbines and pipelines in TPP (Thermal power plant) / 1996.
2. VGB-S-517-00 - Recommendations for evaluation of the microstructure and the creep damage in heat-resisting steels and their welded joints used as parts of pipelines and boilers, working at high pressure, VGB Technical Association of Large Power Plant Operators.
3. TU 14-3-460 - Steel seamless pipes for steam boilers and pipelines. Technical requirements. /Утв. Предс. МТК 7 2002; Разраб. ВНИТИ-ТЕСТ, ГТИ; Срок действ. установлен с 01.01.2003.
4. TU 14-3P-55 - Steel seamless pipes for steam boilers and pipelines. Technical requirements. /Утв. РАО „ЕЭС России” 2001; Разраб. ГНЦ РФ "ЦНИИТМАШ", ОАО "РосНИТИ"; Срок действ. установлен с 5.
5. TU 14-3-190 - Steel seamless pipes for steam boilers and pipelines. Technical requirements. /Утв. Предс. МТК 7 ТК 8 2004; Разраб. ВНИТИ-ТЕСТ, ГД "НИТИ"; Срок действ. установлен с 28.12.2004
6. STO 17230282.27.100.005- - Key elements of boilers, turbines and piping of thermal power plants. Metal inspection. Standards and requirements. ОАО РАО „ЕЭС РОССИИ”.
7. СО 153-34.17 .440 - Instruction for lifetime extension of steam turbines above the resource /Утв. Приказом Минэнерго РФ от 30.06.2003 No 274 - М. ЦПТИ ОРГРЭС, 2004 - 170 с.
8. СО 34.17.452 - Methodological instructions for remaining life estimation of boilers super heaters: /Утв. Департаментом стратегии развития и научно-технической политики РАО "ЕЭС России 04.03.98; Разраб. АО ВТИ; Срок действ. установлен с 01.01.99. - М.: Рот. ВТИ 1998 - 27 с.
9. СО 34.17.310 - In-service welding, heat treatment and inspection during the repair of welded joints of pipe systems of boilers and steam pipelines. /Утв. РАО "ЕЭС России" 20.03.96; Разраб. АО ВТИ, РАО "ЕЭС России", Госгортехнадзор России. - М. НПО ОБТ, 1997-142 с.
10. СО 34.17.435 - Methodological guidance for technical diagnostics of boilers with operation pressure up to 4 МПа: /Утв. РАО "ЕЭС России" 15.03.95; Разраб. АО ВТИ, НПО ЦКТИ, АО "Фирма ОРГРЭС"; Срок действ. установлен с 01.06.95. - М. 1995-124 с.
11. TC - Technical specifications

I ORDER

To issue the Certificate of Accreditation with reg. No. 80 OKC of 16.01.2023, valid until 16.01.2027 and this order enclosed as an integral part of it.

The Certificate of accreditation and the enclosure should be obtained from the manager/representative of „ANSYST 98” OOD, Sofia, the head of the CAB, or another authorized person in the EA BAS building.

Upon receipt of the issued certificate and the enclosed order, the accredited person is obliged to return to the EA BAS the originals of the accreditation certificate Reg. No. 80 OKC of 10.09.2021 and the enclosed order No A 563 of 10.09.2021 of the EA BAS.

This Order shall be notified to „ANSYST 98” OOD, Sofia, within 3 (three) days of its issuance.

Eng. Irena Borislavova

Executive Director of EA BAS



