**at „SGS BULGARIA“ EOOD, SOFIA**

**Inspection body „Control and Diagnostics of Equipment” type А**

**Management address:**

1784, Sofia, Mladost district, 115 G Tsarigradsko Shose Blvd., MEGAPARK Business Center, floor б, office С

**Office address:**

8104, Burgas, Production site of LUKOIL NEFTOHIM BURGAS JSC, Nondestructive Testing Building

**To perform inspection according to the following scope:**

| **Type of the scope:** *flexible for part of the scope* \* | | | | | |
| --- | --- | --- | --- | --- | --- |
| **№** | **Field of Inspection** | **Type of Inspection** | **Parameter of Inspection / Characteristic** | **Test and Measurement Methods Used During Inspection, Inspection Procedure** | **Regulations, Standards, Specifications, Schemes** |
| **1** | **2** | **3** | **4** | **5** | **6** |
| 1. | Pi Pipelines - technological and main pipelines for different environments, incl. vapour, hot water, crude oil and petroleum products; gas facilities and installations, tanks for storage of different media, incl. crude oil and petroleum products; pressure vessels, incl. high and low-pressure boilers; elements and systems of turbines; lifting and handling machines and equipment; machinery, equipment, structures and components for them - basic metal and welded joints; rolled products, casts and forgings | Initial and/or  periodic  inspection of  new and/or  used/  operated  sites/  facilities/  processes/  products | Type and size of  non-integrities/ imperfections | Ultrasound testing:  РПК 00-05  БДС 9233  БДС 9234  (cancelled without replacement)  БДС 13661  БДС 9824  БДС 10037  (cancelled without replacement)  БДС EN 10160  БДС EN ISO 10893-8  БДС EN ISO 10893-8/A1  БДС 13598  (cancelled without replacement)  БДС EN ISO 17640  БДС EN ISO 16810  БДС EN ISO 16811  БДС EN ISO 16823  БДС EN ISO 16826  БДС EN ISO 16827  БДС EN ISO 23279  БДС EN ISO 6520-1  БДС EN 10228-3  БДС EN 10228-4  БДС EN 12680-1  БДС EN 12680-2  БДС EN 12680-3  БДС EN 10306  БДС EN 10307  БДС EN 10308  ISO 4386-1 | НУБЕТНСН, Art. 19, Art. 21, Art. 53, (SG № 64/2008) НУБЕПРГСИУПГ, Art. 9, Art. 127, (SG № 67/2004) НУБЕТНГСИВВГ , Art. 105  (SG № 82/2004) НУБЕНПНПП, Art, 7, Art. 2б  (SG № 104/2004)  ИКМОТСЕСКТТТЕЦ,  НЕK, 1996  НЕРМР ”ЛНБ”  (НК1-03-502-6.3)  ИПЕРБРСТТ”ЛНБ”  (ИК 1-02-016-6.3)  БДС EN ISO 17635  БДС 13661  БДС EN 10160  БДС EN ISO 10893-8  БДС EN ISO 10893-8/A1  БДС EN ISO 11666  БДС EN 14015  БДСЕN 13445-5  БДС EN 13480-5  БДС EN 14163  БДС EN 14163/АС  БДС EN 12732  БДС EN ISO 5817  БДС EN 10228-3  БДС EN 10228-4  БДС EN 12680-1  БДС EN 12680-2  БДС EN 12680-3  БДС EN 10306  БДС EN 10307  БДС EN 10308  ISO 4386-1  ASME B 31.3  НП -084  НП-105  ГОСТ Р 50.05.17  СНиП 3.05-05  TS |
| 2. | Pipelines — technological and main pipelines for different environments, incl. vapour, hot water, crude oil and petroleum products; gas facilities and installations, tanks for storage of different media, incl. crude oil and petroleum products; pressure vessels, incl. high and low-pressure boilers; elements and systems of turbines; lifting and handling machines and equipment; machinery, equipment, and structures and components for them - basic metal and welded joints; rolled products, casts and forgings. | Initial and/or  periodic  inspection of  new and/or  used/  operated  sites/  facilities/  processes/  products | Testing of wall thickness, by using ultrasonic testing method | Wall thickness:  РПК 00-01  БДС EN ISO 16809 | НУБЕТНСН, Art. 53,  (SG № 64/2008) НУБЕПРГСИУПГ , Art. 9, Art. 87, Art. 127, (SG № 67/2004)  НУБЕТНГСИВВГ, Art. 5, Art. 6 (SG № 82/2004) НУБЕНПНПП, Art. 7, Art. 13 (SG № 104/2004) ИКМОТСЕСКТТТЕЦ, НЕК , 1996  ОМТОР LNB  (НК1-03-502-6.3) IDORSOSPP LNB  (ИК 1-02-016-6.3)  TS |
| 3. | Pipelines — technological and main pipelines for different environments, incl. vapour, hot water, crude oil and petroleum products; gas  facilities and installations, tanks for storage of different media, incl**.** crude oil and petroleum products; pressure vessels, incl. high and low-pressure boilers; elements and systems of  turbines;  lifting and  handling  machines and  equipment;  machinery,  equipment,  structures and  components for them -  basic metal and  welded  joints;  rolled products, casts and  forgings | Initial and/or  periodic  inspection of  new and/or  used/  operated  sites/  facilities/  processes/  products | Type and size of  non-integrities/ imperfections | Radiographic testing:  РПК 00-04  БДС EN 12681-1  БДС EN ISO 17636-1  БДС EN ISO 5579  БДС EN ISO 10893-6  ГОСТ Р 50.05.07 | НУБЕТНСН, Art. 19, Art. 21, Art. 53,  (SG № 64/2008) НУБЕПРГСИУПГ, Art. 9, Art. 127,  (SG № 67/2004) НУБЕТНГСИВВГ , Art. 105 (SG № 82/2004) НУБЕНПНПП, Art. 7, Art. 26 (SG № 104/2004) ИКМОТСЕСКТТТЕЦ, НЕК, 1996  ОМТОР LNB  (НК1-03-502-6.3) ИПЕРБРСТТ ”ЛНБ”  (ИК 1-02-016-6.3)  БДС EN ISO 6520-1  БДС EN ISO 10042  БДС EN 14015  БДС EN 14163  БДС EN 14163/АС  БДС EN 12732  БДС EN 13445-5  БДС EN 13480-5  БДС EN ISO 5817  БДС EN ISO 17635  БДС 13060  БДС EN ISO 10675-1  БДС EN ISO 10675-2  ASME В 31.3  БДС EN ISO 10893-6  НП-084  НП-105  ГОСТ Р 50.05.17  СНиП 3.05-05  TS |
| 4. | Pipelines — technological and main pipelines for different environments, incl. vapour, hot water, crude oil and petroleum products; gas facilities and installations, tanks for storage of different media, incl. crude oil and petroleum products; pressure vessels, incl. high and low-pressure boilers; elements and systems of turbines; lifting and handling machines and equipment; machinery, equipment, and structures and components for them - basic metal and welded joints; rolled products, casts and forgings | Initial and/or  periodic  inspection of  new and/or  used/  operated  sites/  facilities/  processes/  products | Type and size of surface and  subsurface  non-integrities/  indications | Magnetic-particle testing:  РПК 00-02  БДС 7156  БДС 15575  БДС 15575/  Amendment 1  БДС EN 1369  БДС EN ISO 17638  БДС EN ISO 9934-1  БДС EN 10228-1  БДС EN ISO 10893-5 | НУБЕТНСН, Art. 21, Art. 53, (SG № 64/2008) НУБЕПРГСИУПГ, Art. 9, Art. 127, (SG № 67/2004)  НУБЕНПНПП, Art. 7  (SG № 104/2004) ИКМОТСЕСКТТТЕЦ, НЕК, 1996  ИПЕРБРСТТ”ЛНБ”  (НК1-03-502-6.3)  IDORSOSPP LNB  (ИК 1-02-016-6.3)  БДС EN ISO 6520-1  БДС EN 14015  БДС EN 14163  БДС EN 14163 / АС  БДС EN 12732  БДС EN 13445-5  БДС EN 13480-5  БДС EN ISO 17635  БДС EN ISO 23278  БДС EN 1369  БДС EN ISO 5817  БДС EN 10228-1  БДС EN ISO 10893-5  ASME В 31.3  НП-084  НП-105  ГОСТ Р 50.05.17  СНиП 3.05-05  TS |
| 5. | Pipelines — technological and main pipelines for different environments, incl. vapour, hot water, crude oil and petroleum products; gas facilities and installations, tanks for storage of different media, incl. crude oil and petroleum products; pressure vessels, incl. high and low-pressure boilers; elements and systems of turbines; lifting and handling machines and equipment; machinery, equipment, structures and components for them - basic metal and welded joints; rolled products, casts and forgings | Initial and/or  periodic  inspection of  new and/or  used/  operated  sites/  facilities  processes/products | Type and size of  non-integrities / indications opened to the surface | Liquid penetrate testing:  РПК 00-03  БДС EN 1371-1  БДС EN 1371-2  БДС EN ISO 3452-1  БДС EN ISO 3452-3  БДС 15830  БДС EN 10228-2  БДС EN ISO 10893-4  ISO 4386-3  ГОСТ Р 50.05.09 | НУБЕТНСН, Art. 21, Art. 53, (SG № 64/2008) НУБЕПРГСИУПГ, Art. 9, Art. 127, (SG № 67/2004)  НУБЕНПНПП, Art. 7  (SG№ 104/2004) ИКМОТСЕСКТТТЕЦ, НЕК , 1996  НЕРМР LNB  (НК1-03-502-6.3) ИПЕРБРСТТ LNB  (ИК 1-02-016-6.3)  БДС EN ISO 6520-1  БДС EN ISO 17635  БДС EN ISO 23277  БДС EN 14015  БДС EN 14163  БДС EN 14163/АС  БДС EN 12732  БДС EN 13445-5  БДС EN 13480-5  БДС EN 1371-1  БДС EN 1371-2  БДС EN ISO 5817  БДС EN 10228-2  БДС EN ISO 10893-4  ISO 4386-3  ASME В 31.3  НП-084  НП-105  ГОСТ Р 50.05.17  СНиП 3.05-05  TS |
| 6. | Pipelines — technological and main pipelines for different environments, incl. vapour, hot water, crude oil and petroleum products; gas facilities and installations, tanks for storage of different media, incl. crude oil and petroleum products; pressure vessels, incl. high and low-pressure boilers; elements and systems of turbines; lifting and handling machines and equipment; machinery, equipment, and structures and components for them - basic metal and welded joints; rolled products, casts and forgings | Initial and/or  periodic  inspection of  new and/or  used/  operated  sites/  facilities/  processes/  products | Type and size of  non-integrities / indications opened to the surface | Visual testing:  РПК 00-40  БДС EN 1370  БДС EN 13018  БДС EN 13018/A1  БДС 5177  БДС EN ISO 17637  ГОСТ Р 50.05.08 | НУБЕТНСН, Art. 19, Art. 21, Art. 53, (SG № 64/2008) НУБЕПРГСИУПГ, Art. 9, Art. 127, (SG № 67/2004)  НУБЕНПНПП , Art. 7  (SG № 104/2004)  ОМТОР LNB  (НК1-03-502-6.3) IDORSOSPP LNB  (ИК 1-02-016-6.3)  БДС EN ISO 6520-1  БДС EN ISO 17635  БДС EN 14015  БДС EN 14163  БДС EN 14163/АС  БДС EN 12732  БДС EN 13445-5  БДС EN 13480-5  БДС EN ISO 10042  БДС EN ISO 5817  НП-084  НП-105  ГОСТ Р 50.05.17  СНиП 3.05-05  TS |
| 7. | Pipelines — technological and main pipelines for different environments, incl. vapour, hot water, crude oil and petroleum products; gas facilities and installations, tanks for storage of different media, incl. crude oil and petroleum products; pressure vessels, incl. high and low-pressure boilers; elements and systems of turbines; lifting and handling machines and equipment; machinery, equipment, structures and components for them - basic metal and welded joints; rolled products, casts and forgings | Initial and/or  periodic  inspection of  new and/or  used/operated  sites/ facilities/  processes/ products | Tightness rate – presence/absence of leakage | Gas hydraulic method of testing with use of foaming compositions.  Method of testing: bubbling test:  РПК 00-41  БДС 17111, III. 2  БДС EN 1593  БДС EN 1593/А1 | НУБЕТНСН , Art. 19, Art. 21, Art. 53, (SG № 64/2008)  НУБЕПРГСИУПР, Art. 9, Art. 127, (SG № 67/2004)  НУБЕНПНПП, Art. 7 (SG №104/2004)  НЕРМР LNB (НК1-03-502-6.3)  IDORSOSPP LNB  (ИК 1-02-016-6.3)  БДС EN 13445-5  БДС EN 13480-5  БДС EN 1593  БДС EN 1593/А1  TS |
| 8. | Pipelines — technological and main pipelines for different environments, incl. vapour, hot water, crude oil and petroleum products; gas facilities and installations, tanks for storage of different media, incl. crude oil and petroleum products; pressure vessels, incl. high and low-pressure boilers; elements and systems of turbines; lifting and handling machines and equipment; machinery, equipment, and structures and components for them - basic metal and welded joints; rolled products, casts and forgings | Initial and/or  periodic  inspection of  new and/or used/  operated sites/  facilities/ processes/  products | Hardness testing by: Brinell, НВ-once;  Vickers, НV-once;  Rockwell, HRC-once  By Leeb’s method | Hardness testing:  РПК 00-09  БДС EN ISO 16859-1 | НУБЕТНСН, Art. 53  (SG № 64/2008)  ИКМОТСЕСКТТТЕЦ NEK, 1996  НЕРМР LNB  (НК1-03-502-6.3) IDORSOSPP LNB  (ИК 1-02-016-6.3)  БДС 4758  БДС 8424  БДС 8308  БДС 15018  БДС 6942  БДС 9625  БДС 16840  БДС EN 14015  БДС EN 12952-6  БДС EN 13445-5  БДС EN 13480-5  TS |
| 9. | Steel metal products | Initial and/or  periodic inspection of new and/or used/  operated sites/ facilities/ processes/  products | Content of chemical elements by spectral analysis in steels: Carbon -C  Manganese - Mn  Chromium - Cr  Nickel Ni  Silicon - Si Copper - Cu  Titanium -T  Molybdenum - Mo  Vanadium - V  Cobalt - Co  Aluminum - Al  Tungsten - V | Spectral analysis  РПК 00-15 ФН М 004-2017\*\* | НУБЕТНГСИВВГ, Art. 5 (SG № 82/2004)  НУБЕНПНПП, Art. 25  (SG № 104/2004)  ИКМОТСЕСКТТТЕЦ,  NEK, 1996  ИПЕРБРСТТ LNB  (ИК 1-02-016-6.3) Stahlschlüssel  БДС ЕN 14015  БДС EN 13445-5  БДС EN 13480-5  БДС 9801  БДС 13568  БДС 4758  TS |
| 10. | Elbows and pipe from conduits, heating surfaces and turbine shafts through linear dimensions | Initial and/or  periodic  inspection of  new and/or  used/  operated  sites/  facilities/  processes/  products | Ovality | Geometrical dimension testing:  РПК 00-06  БДС EN 12952-5, p.7.3  БДС EN 13480-4, p.7.4 IMIETCESBTPTPP, NEK, 1996 | ИКМОТСЕСКТТТЕЦ,  NEK, 1996  БДС EN 12952-5  БДС EN 13480-4  TS |
| 11 | Dielectric insulating anticorrosion coating of vessels, pressure vessels, gas facilities and installations, pipelines, machinery and equipment, structures and components for them | Initial and/or  periodic inspection of new and/or used/  operated sites/ facilities/ processes/  products | Thickness and overall dielectric insulating anticorrosion coating: presence/absence of puncture | Inspection by electric spark method:  РПК 00-42  БДС 15705/amendment 1 | НУБЕТНСН, Art.19, Art.21, Art.53 (SG № 64/2008 amd. SG № 60/2018) НУБЕТНГСИВВГ, (SG, № 82/2004, amd. SG, №64 /2008)  НУБЕПРГСИУПГ, Art. 9, Art.127 (SG № 67/2004, amd. SG, № 60/2018)  OCSOOOPP, Art. 7 (SG, № 104/2004, amd. SG, №60/2018)  ОМТОР LNB  (НК1-03-502-6.3)  IDORSOSPP LNB  (ИК 1-02-016-6.3)  БДС 15705 /amendment 1  TS |
| 12 | Pipelines - technological and main pipelines for different environments, incl. vapour, hot water, crude oil and petroleum products; gas facilities and installations, tanks for storage of different media, incl. crude oil and petroleum products; pressure vessels, incl. for transportation of compressed, liquefied, gases dissolved under pressure and cryogenic liquids; high and low-pressure boilers; elements and systems of turbines; lifting and handling machines and equipment; machinery, equipment, structures and components for them - basic metal and welded joints; rolled products, casts and forgings. | Initial and/or  periodic inspection of new and/or used/  operated sites/ facilities/ processes/  products | Coating thickness  - Thickness of non-conductive coatings or non-magnetic and metallic coatings on metallic and non-metallic base  - Thickness of non-magnetic coatings on a magnetic base | Measurement of coating thickness of ferritic and non-ferritic metal surfaces by magnetic induction method:  Eddy current inspection methods:  РПК 00-38;  БДС EN IS0 2808;  БДС EN IS0 2360;  БДС EN IS0 21968.  Magnetic- particle inspection:  РПК 00-38;  БДС EN IS0 2808;  БДС EN IS0 2178;  БДС EN IS0 2361. | БДС EN ISO 2808;  БДС EN IS0 8503-1  БДС ISO 19840;  БДС EN IS0 21968;  БДС EN ISO 2360;  TS |
| 13 | Pipelines - technological and main pipelines for different environments, incl. vapour, hot water, crude oil and petroleum products; gas facilities and installations, tanks for storage of different media, incl crude oil and petroleum products; pressure vessels, incl. for transportation of compressed, liquefied, gases dissolved under pressure and cryogenic liquids; high and low-pressure boilers; elements and systems of turbines; lifting and handling machines and equipment; machinery, equipment, structures and components for them - basic metal and welded joints; rolled products, casts and forgings. | Initial and/or  periodic inspection of new and/or used/  operated sites/ facilities/ processes/  products | Average roughness / surface profile | Determination of average roughness surface profile:  РПК 00-39  БДС EN IS0 8503-1  БДС EN IS0 8503-4 | БДС EN IS0 8503-1  БДС EN IS0 8503-4  TS |
| 14. | Destructive testing of: pipelines - technological and main pipelines for various environments, incl. vapour, hot water, crude oil and petroleum products; gas facilities and installations, tanks for storage of various media, incl. crude oil and petroleum products; pressure vessels, incl. for transportation of compressed, liquefied, pressure-dissolved gases and cryogenic liquids; high and low-pressure boilers; components and systems of turbines; lifting and transporting machines and equipment; machinery, equipment, and structures and components for them - basic metal and welded joints; profiled and rolled products, casts and forgings | Initial and/or  periodic  inspection of  new and/or  used/operated  sites/facilities/  processes/  products | Minimum stress/ tensile strength under adhesion of single-layer or multi-layer systems of paints, varnishes | Determination of minimum tensile stress/strength under adhesion of single-layer or multi-layer systems of paints, varnishes:  РПК 00-10  БДС EN ISO 4624,  БДС EN ISO 16276-1 | БДС EN ISO 13076  БДС EN ISO 16276-1  TS |
| 15. | Destructive testing of: Pipelines - technological and main pipelines for various environments, incl. vapour, hot water, crude oil and  petroleum products, gas facilities and installations, tanks for storage of various media, incl. crude oil and petroleum products; pressure vessels, incl. for transportation of compressed, liquefied, pressure-dissolved gases and cryogenic liquids; high and low-pressure boilers; components and systems of turbines; lifting and handling machines and equipment; machinery, equipment, structures and components for them - basic metal and welded joints; rolled products, casts and forgings | Initial and/or  periodic  inspection of  new and/or  used/operated  sites/facilities/  processes/  products | Appearance of the surface in the area of cross-cut testing of single-layer or multi-layer systems of paints, varnishes | Visual method of cross-cut testing:  РПК 00-11  БДС EN ISO 2409  БДС EN ISO 16276-2 | БДС EN ISO 13076  БДС EN ISO 2409  БДС EN ISO 16276-2 |

**\*Flexible scope:**

*The introduction of a new version of standards/documents or standards/documents that replace them is allowed. An up-to-date list of standards/documents with their dated versions is provided by the Conformity assessment bodies.*

НУБЕТНСПН - Ordinance adopted with CM Decree № 164, Ordinance on the Construction, Safe Operation and Technical Surveillance of Pressure Equipment (SG № 64/2008);

НУБЕПРГСИУПГ –Ordinance adopted with CM Decree № 171, Ordinance on the Construction and Safe Operation of the Transmission and Distribution Pipelines and of the Facilities, Installations and Appliances for Natural Gas 67/2004);

НУБЕТНГСИВВГ - Ordinance adopted with CM Decree № 243, Ordinance on the Construction, Safe Operation and Technical Surveillance of Gas Facilities and Installations for Liquefied Hydrocarbon Gases (SG № 82/2004);

НУБЕНПНПП - Ordinance on the Construction and Safe Operation of Oil and Oil Product Pipelines (SG № 104/2004);

ИКМОТСЕСКТТТЕЦ - Instruction on Metal Inspection and Evaluation of Technical Condition of Elements and Systems of Boilers, Turbines and Pipeworks at TPPs, NEK EAD, 1996;

Stahlschlüssel - Steel key, Publisher: Verlag Stahlschlüssel, Wegst GmbH;

НП-084-15 - Federal norms and rules in the field of the use of nuclear energy "Rules for the control of base metal, welded joints and welded surfaces during the operation of equipment, pipelines and other elements of nuclear power plants", Approved by order of the Federal Service for Ecological, Technological and Nuclear Supervision dated December 7, 2015 № 502, Registered with the Ministry of Justice of Russia on March 10, 2016 № 41366, Update date: 01/01/2019;

СНиП 3.05.05-84 - Building regulations. Technological equipment and technological pipelines (Approved by the Decree of the USSR Gosstroy of May 7, 1984 № 72), Publishing House of the Federal State Unitary Enterprise TsPP, Moscow 1985, Update date: 01/01/2019;

НЕРМР „ЛНБ“ (НК 1-03-502-6.3)- Ordinance on Metal Tank Operation and Repair, Lukoil Neftochim Bourgas;

ИПЕРБРСТТ „ЛНБ“ (ИК 1-02-016-6.3) - Instruction on the Design, Operation, Repair and Safe Operation of Steel Process Pipelines at Lukoil Neftochim Bourgas;

TS - Technical Specification.

\*\* Fixed scope

ФН М 004-2017 - Validated in-house methodology, Spectral Method for Chemical Analysis of Steel Metal Products, 01.08.2017