## Scope of Accreditation for the Testing Laboratory (Center) <u>Testing Center of High-voltage Equipment</u>

Joint Stock Company «Research and Development Center at Federal Grid Company of Unified Energy System»

Testing Laboratory (Testing Center) Name

## 127566, Moscow, Vysokovoltny proezd, 13, buildings 1, 2, 3, 5

## 127566, Moscow, Vysokovoltny proezd, 13, building 9 (archive of Testing Center)

Business Address

on conformity to requirements of GOST ISO/IEC 17025-2019

Title and requisites of interstate or national standard, which specifies general requirements to competence of testing and calibration laboratories

| No. | Documents establishing rules and | Equipment                  | OKPD 2  | TN VED    | Defined parameter                               | Range                          |
|-----|----------------------------------|----------------------------|---------|-----------|---|--------------------------------|
|     | techniques of research (testing) |                            | code    | EAEU code | _   | -                              |
|     | and measurements                 |                            |         |           |   |                                |
| 1   | 2                                | 3                          | 4       | 5         | 6   | 7                              |
| 1   | GOST 11677 Section 7 (table 23   | Power transformers, trans- | 27.11.4 | 8504 21   | Temperature rise tests with rated current:      | Passed / failed                |
|     | §8, 17)                          | formers and transforming   |         | 8504 22   | 0 to 20000 A                                    |                                |
|     |                                  | power electro-oven units   |         | 8504 23   | 0,1 to 35 kV                                    |                                |
|     |                                  |                            |         |           | - temperature rise                              | 1 to $300^{\circ}$ C           |
|     |                                  |                            |         |           | - measurement of resistance                     | $1~\mu\Omega$ to 2000 $\Omega$ |
| 2   | GOST 11677 Section 7 (table 23.  | Power transformers; trans- | 27.11.4 | 8504 21   | Short-time withstand tests and current striking | Irms 0,1 to 70 kA              |
|     | §13)                             | formers and transforming   |         | 8504 22   | shocks.   | Idyn 0,1 to 180 kA             |
|     |                                  | power electro-oven units   |         | 8504 23   | 0,1 to 208 kV                                   | 0,1 to 4 s                     |
|     |                                  |                            |         |           |   | Compliant/                     |
|     |                                  |                            |         |           |   | noncompliant                   |
| 3   | GOST 11677 §7.1                  | Power transformers         | 27.11.4 | 8504 21   | Perform of inspections:                         | 1 to 500 mm                    |
|     |                                  |                            |         | 8504 22   | - checking of requirements to grounding (dur-   | compliant/                     |
|     |                                  |                            |         | 8504 23   | ing checking of safety requirements)            | noncompliant                   |
|     |                                  |                            |         |           | - presence of device for slinging and           | compliant/                     |
|     |                                  |                            |         |           | horisontal movement (during checking of         | noncompliant                   |
|     |                                  |                            |         |           | safety requirements)                            |                                |
|     |                                  |                            |         |           | - presence of devices for tank protection       | compliant/                     |
|     |                                  |                            |         |           | against internal pressure increasing (during    | noncompliant                   |
|     |                                  |                            |         |           | checking of safety requirements)                |                                |

| 1 | 2                              | 3                  | 4       | 5       | 6   | 7                            |
|---|--------------------------------|--------------------|---------|---------|---|------------------------------|
|   |                                |                    |         |         |   |                              |
|   |                                |                    |         |         | - presence of oil level marker and valve for    | compliant/                   |
|   |                                |                    |         |         | selection of oil sample (during checking of     | noncompliant                 |
|   |                                |                    |         |         | safety requirements)                            |                              |
|   |                                |                    |         |         | - marking and presence of nameplate (during     | compliant/                   |
|   |                                |                    |         |         | checking of safety requirements)                | noncompliant                 |
|   |                                |                    |         |         | - for way of protection (during checking of     | compliant/                   |
|   |                                |                    |         |         | safety requirements)                            | noncompliant                 |
| 4 | GOST 17544 § 6.1; 6.3          | Power transformers | 27.11.4 | 8504 21 | Temperature rise tests with rated current:      | Passed / failed              |
|   |                                |                    |         | 8504 22 | 0 to 20000 A                                    |                              |
|   |                                |                    |         | 8504 23 | 0,1 to 35 kV                                    | 0                            |
|   |                                |                    |         |         | - temperature rise                              | 1 to 300°C                   |
|   |                                |                    |         |         | - measurement of resistance                     | 1 μΩ to 2000 Ω               |
| 5 | GOST R 52719 Section 10 (table | Power transformers | 27.11.4 | 8504 21 | Temperature rise tests with rated current:      | Passed / failed              |
|   | 11 §8, 17)                     |                    |         | 8504 22 | 0 to 20000 A                                    |                              |
|   |                                |                    |         | 8504 23 | 0,1  to  35  kV                                 |                              |
|   |                                |                    |         |         | - temperature rise                              | 1 to 300°C                   |
|   |                                |                    |         |         |   | 1 .:: O to 2000 O            |
|   |                                |                    |         |         | - measurement of resistance                     | 1 μΩ2 το 2000 Ω2             |
| 6 | GOST R 52719 Section 10 (table | -                  |         |         | Short-time withstand tests and current striking | Irms 0.1 to 70 kA            |
| 0 | 11 813)                        |                    |         |         | shocks  | Idvn 0.1 to $180 \text{ kA}$ |
|   | 11 310)                        |                    |         |         | 0.1 to 208 kV                                   | Compliant/noncompliant       |
| 7 | GOST R 52719 Section10 (table  |                    |         |         | Checking of sound power level (during check-    | 0 to 130 dBA                 |
|   | 11 §14)                        |                    |         |         | ing of safety requirements)                     | compliant/                   |
|   |                                |                    |         |         |   | noncompliant                 |
| 8 | GOST R 52719 810 1             | -                  |         |         | Perform of inspections:                         | 1 to 500 mm                  |
| 0 | 0051 K 52/17 §10.1             |                    |         |         | - checking of requirements to grounding (dur-   | compliant/                   |
|   |                                |                    |         |         | ing checking of safety requirements)            | noncompliant                 |
|   |                                |                    |         |         |   | noncompnunt                  |
|   |                                |                    |         |         | - presence of device for slinging and           | compliant/                   |
|   |                                |                    |         |         | horisontal movement (during checking of         | noncompliant                 |
|   |                                |                    |         |         | safety requirements)                            |                              |
|   |                                |                    |         |         | - presence of devices for tank protection       | compliant/                   |
|   |                                |                    |         |         | against internal pressure increasing            | noncompliant                 |
|   |                                |                    |         |         | (during checking of safety requirements)        |                              |
|   |                                |                    |         |         | - presence of oil level marker and valve for    | compliant/                   |
|   |                                |                    |         |         | selection of oil sample                         | noncompliant                 |
|   |                                |                    |         |         | (during checking of safety requirements)        |                              |

| 1  | 2                              | 3                           | 4        | 5           | 6   | 7                              |
|----|--------------------------------|-----------------------------|----------|-------------|---|--------------------------------|
|    |                                |                             |          |             |   |                                |
|    |                                |                             |          |             |   |                                |
|    |                                |                             |          |             | - marking and presence of nameplate           | compliant/noncompliant         |
|    |                                |                             |          |             | (during checking of safety requirements)      |                                |
|    |                                |                             |          |             | - for way of protection                       | compliant/                     |
| 0  | COST D 52510 C                 | -                           |          |             | (during checking of safety requirements)      | noncompliant                   |
| 9  | GOST R 52/19 Section 10 (table |                             |          |             | - for fire safety requirements                | compliant/                     |
|    | 11 819)                        |                             |          |             | (during checking of safety requirements)      | noncompnant                    |
|    |                                |                             |          |             | Statistic analisys                            |                                |
| 10 | GOST 12.2.024 Section 2        | Power transformers: trans-  | 27.11.4  | 8504 210000 | Checking of sound power level (during check-  | 0 to 130 dBA                   |
| -  |                                | formers and transforming    | 27.11.5  | 8504 220000 | ing of safety requirements)                   | compliant/                     |
|    |                                | reactors                    |          | 8504 230000 |   | noncompliant                   |
| 11 | GOST 12.1.004 Annex 3          | Power transformers; trans-  | 27.11.4  | 8504 210000 | Checking for fire safety requirements (during | compliant/                     |
|    |                                | formers and transforming    | 27.11.5  | 8504 220000 | checking of safety requirements)              | noncompliant                   |
|    |                                | reactors; transformers and  |          | 8504 230000 | Statistic analisys                            |                                |
|    |                                | transforming power electro- |          |             |   |                                |
| 10 |                                | oven units                  | 07.11.4  | 0504 010000 |   | 0.001 . 000.0                  |
| 12 | GOST 12.2.007.0 § 3.3.7        | Power transformers; trans-  | 27.11.4  | 8504 210000 | Checking of resistance between grounding      | $0,001$ to $200 \Omega$        |
|    |                                | reactors                    | 27.11.5  | 8504 220000 | ourrenteerrying part (during checking of safe | noncompliant                   |
|    |                                | reactors                    |          | 8304 230000 | ty requirements)                              | noncompnant                    |
| 13 | GOST R 55016 8 11 1: 11 3      | Power transformers          | 27 11 4  | 8504 210000 | Temperature rise tests with rated current:    | Passed / failed                |
| 10 |                                |                             | 27.111.1 | 8504 220000 | 0 to 20000 A                                  | Tubbed / Tuned                 |
|    |                                |                             |          | 8504 230000 | 0,1 to 35 kV                                  |                                |
|    |                                |                             |          |             | - temperature rise                            | 1 to $300^{\circ}$ C           |
|    |                                |                             |          |             | - measurement of resistance                   | $1~\mu\Omega$ to $2000~\Omega$ |
|    |                                |                             |          |             |   |                                |
| 14 | GOST R 51559 § 7.1             | Power transformers          | 27.11.4  | 8504 210000 | Temperature rise tests with rated current:    | Passed / failed                |
|    |                                |                             |          | 8504 220000 | 0 to 20000 A                                  |                                |
|    |                                |                             |          | 8504 230000 | 0,1 to 35 kV                                  | $1 \pm 200^{0}$                |
|    |                                |                             |          |             | - temperature rise                            | 1  to  500  C                  |
|    |                                |                             |          |             |   | 1 µsz to 2000 sz               |
| 15 | GOST 30830 §10.1               | Power transformers          | 27.11.4  | 8504 210000 | Temperature rise tests with rated current:    | Passed / failed                |
|    |                                |                             |          | 8504 220000 | 0 to 20000 A                                  |                                |
|    |                                |                             |          | 8504 230000 | 0,1 to 35 kV                                  |                                |
|    |                                |                             |          |             | - temperature rise                            | 1 to 300 <sup>0</sup> C        |
|    |                                |                             |          |             | - measurement of resistance                   | 1 μΩ to 2000 Ω                 |

|      |                         |                               |         |             |   | On 61 pages, page 4                 |
|------|-------------------------|-------------------------------|---------|-------------|---|-------------------------------------|
| 1    | 2                       | 3                             | 4       | 5           | 6   | 7                                   |
|      |                         |                               |         |             |   |                                     |
| 16   | GOST 12965 §6.1.2       | Power transformers            | 27.11.4 | 8504 210000 | Temperature rise tests with rated current:      | Passed / failed                     |
|      |                         |                               |         | 8504 220000 | 0 to 20000 A                                    |                                     |
|      |                         |                               |         | 8504 230000 | 0,1 to 35 kV                                    |                                     |
|      |                         |                               |         |             | - temperature rise                              | 1 to $300^{\circ}$ C                |
|      |                         |                               |         |             | - measurement of resistance                     | $1 \ \mu\Omega$ to 2000 $\Omega$    |
| 17   | GOST 16555 § 4.1        | Power transformers            | 27.11.4 | 8504 210000 | Temperature rise tests with rated current:      | Passed / failed                     |
|      |                         |                               |         | 8504 220000 | 0 to 20000 A                                    |                                     |
|      |                         |                               |         | 8504 230000 | 0,1 to 35 kV                                    |                                     |
|      |                         |                               |         |             | - temperature rise                              | $1 \text{ to } 300^{\circ}\text{C}$ |
|      |                         |                               |         |             | - measurement of resistance                     | 1 μΩ to 2000 Ω                      |
| 18   | GOST R 54827 §23        | Power transformers            | 27.11.4 | 8504 210000 | Temperature rise tests with rated current:      | Passed / failed                     |
|      |                         |                               |         | 8504 220000 | 0 to 20000 A                                    |                                     |
|      |                         |                               |         | 8504 230000 | 0,1 to 35 kV                                    | 0                                   |
|      |                         |                               |         |             | - temperature rise                              | 1 to 300°C                          |
| 1.0  |                         |                               |         |             | - measurement of resistance                     | 1 μΩ to 2000 Ω                      |
| 19   | IEC 60076-11§10         | Power transformers            | 27.11.4 | 8504 210000 | Temperature rise tests with rated current:      | Passed / failed                     |
|      |                         |                               |         | 8504 220000 | 0 to 20000 A                                    |                                     |
|      |                         |                               |         | 8504 230000 | 0,1 to 35 kV                                    | 1 . 2000                            |
|      |                         |                               |         |             | - temperature rise                              | 1 to 300 C                          |
|      |                         |                               |         |             | - measurement of resistance                     | 1 μΩ2 το 2000 Ω2                    |
| 20   | GOST 3484 2 Section 2-6 | Power transformers trans-     | 27 11 4 | 8504        | Temperature rise tests with rated current:      | Passed / failed                     |
| 20   |                         | formers and transforming      | 27.11.5 | 0001        | 0 to 20000 A                                    | Tussed / Tuned                      |
|      |                         | reactors, transformers and    |         |             | 0.1 to 35 kV                                    |                                     |
|      |                         | transforming power electro-   |         |             | - temperature rise                              | 1 to 300 <sup>°</sup> C             |
|      |                         | oven units; reactors, includ- |         |             | - measurement of resistance                     | 1 $\mu\Omega$ to 2000 $\Omega$      |
|      |                         | ing current-limiting.         |         |             |   | ·                                   |
| 21   | GOST 3484.1 Section 2   | Power transformers, trans-    | 27.11.4 | 8504 21     | Checking of transformer factor                  | 1 to 100                            |
|      |                         | formers and transforming      |         | 8504 22     |   | compliant/                          |
|      |                         | reactors, transformers and    |         | 8504 23     |   | noncompliant                        |
| 22   | GOST 3484.1 Section 4   | transforming power electro-   |         |             | Measurement of resistanceof coils to DC cur-    | 1 n $\Omega$ to 10 k $\Omega$       |
|      |                         | oven units.                   |         |             | rent  | Passed / failed                     |
| 23   | GOST 3484.1 Section 5   |                               |         |             | Measurement of losses and short-circuit volt-   | 0 to 12 kW                          |
|      |                         |                               |         |             | age   | 0 to 100 %                          |
|      |                         |                               |         |             |   | Passed / failed                     |
| 24   | GOST 3484.1 Section 6   |                               |         |             | Measurement of losses and no-load current       | 0 to 12 kW                          |
|      |                         |                               |         |             |   | 0 to 100 %                          |
| - 27 |                         |                               | 07.11.4 | 0504        |   | Passed / failed                     |
| 25   | GUST 20243              | Power transformers, trans-    | 27.11.4 | 8504        | Short-time withstand tests and current striking | Irms $0,1$ to $70$ kA               |

|    |                              | formers and transforming     | 27.11.5 |      | shocks.                                      | Idyn 0,1 to 180 kA                  |
|----|------------------------------|------------------------------|---------|------|--|-------------------------------------|
|    |                              | reactors, transformers and   |         |      | 0,1 to 208 kV                                | compliant/                          |
|    |                              | transforming power electro-  |         |      |  | noncompliant                        |
|    |                              | oven units.                  |         |      |  | -                                   |
| 26 | GOST 16772 § 5.15; 5.20;     | Transformers and             | 27.11.4 | 8504 | Temperature rise tests with rated current:   | Passed / failed                     |
|    |                              | transforming reactors        |         |      | 0 to 20000 A                                 |                                     |
|    |                              | _                            |         |      | 0,1 to 35 kV                                 |                                     |
|    |                              |                              |         |      | - temperature rise                           | $1 \text{ to } 300^{\circ}\text{C}$ |
|    |                              |                              |         |      | - measurement of resistance                  | 1 $\mu\Omega$ to 2000 $\Omega$      |
|    |                              |                              |         |      |  |                                     |
| 27 | GOST 16772 § 5.1, 5.19, 5.21 |                              |         |      | Checking for compliance with safety require- | 1 to 500 mm                         |
|    |                              |                              |         |      | ments  | 0 to 130 dBA                        |
|    |                              |                              |         |      |  | compliant/                          |
|    |                              |                              |         |      |  | noncompliant                        |
| 28 | IEC 61378-1§7.6              | Transforming transformers    | 27.11.4 | 8504 | Temperature rise tests with rated current:   | Passed / failed                     |
|    |                              |                              |         |      | 0 to 20000 A                                 |                                     |
|    |                              |                              |         |      | 0,1 to 35 kV                                 |                                     |
|    |                              |                              |         |      | - temperature rise                           | 1 to $300^{\circ}$ C                |
|    |                              |                              |         |      | - measurement of resistance                  | $1 \ \mu\Omega$ to $2000 \ \Omega$  |
| 29 | IEC /IEEE 60076-57-129 §9.13 | Transforming transformers    | 27.11.4 | 8504 | Temperature rise tests with rated current:   | Passed / failed                     |
|    |                              |                              |         |      | 0 to 20000 A                                 |                                     |
|    |                              |                              |         |      | 0,1 to 35 kV                                 |                                     |
|    |                              |                              |         |      | - temperature rise                           | $1 \text{ to } 300^{\circ}\text{C}$ |
|    |                              |                              |         |      | - measurement of resistance                  | $1 \ \mu\Omega$ to $2000 \ \Omega$  |
|    |                              |                              |         |      |  |                                     |
|    |                              |                              |         |      |  |                                     |
|    |                              |                              |         |      |  |                                     |
| 30 | GOST 20247 §6.1              | Transformers and transform-  | 27.11.4 | 8504 | Temperature rise tests with rated current:   | Passed / failed                     |
|    |                              | ing power electro-oven units |         |      | 0 to 20000 A                                 |                                     |
|    |                              |                              |         |      | 0,1 to 35 kV                                 | 0                                   |
|    |                              |                              |         |      | - temperature rise                           | 1 to 300°C                          |
|    |                              |                              |         |      | - measurement of resistance                  | 1 μΩ to 2000 Ω                      |
| 31 | GOST 14794 §§6.6; 6.11       | Reactors, including current- | 27.11.4 | 8504 | Temperature rise tests with rated current:   | Passed / failed                     |
|    |                              | limiting reactors            |         |      | 0 to 20000 A                                 |                                     |
|    |                              |                              |         |      | 0,1 to 35 kV                                 | 0 -                                 |
|    |                              |                              |         |      | - temperature rise                           | 1 to 300°C                          |
|    | ļ                            | 4                            |         |      | - measurement of resistance                  | $1 \ \mu\Omega$ to 2000 $\Omega$    |
| 32 | GOST 14794 §6.12.            |                              |         |      | Tests for withstand during short-circuits    | Irms 0,1 to 40 kA                   |
|    |                              |                              |         |      | 0.1 to 12 kV                                 | Idvn 0.1 to 102 kA                  |

| 1  | 2                     | 3                         | 4       | 5           |          | 6  | 7                                    |
|----|-----------------------|---------------------------|---------|-------------|----------|--|--------------------------------------|
|    |                       | -                         |         |             |          |  |                                      |
|    |                       |                           |         |             |          |  | 0,1 to 0,22 Ω                        |
|    |                       |                           |         |             |          |  | 0,1 to 3 s                           |
|    |                       |                           |         |             |          |  | compliant/                           |
|    |                       |                           |         |             |          |  | noncompliant                         |
| 33 | GOST 20248 Section 2  | Prefabricated substations | 27.11.4 | 8537 200000 | Tem      | perature rise tests with rated current:      | Passed / failed                      |
|    |                       | (KTP)                     |         |             | 10 to    | o 20 000 A                                   | 0                                    |
|    |                       |                           |         |             | - ten    | nperature rise                               | $1 \text{ to } 300^{\circ}\text{C}$  |
|    |                       | _                         |         |             | - me     | easurement of resistance                     | 1 μΩ to 2000 Ω                       |
| 34 | GOST 20248 Section 3  |                           |         |             | Sho      | rt-time withstand tests, including for Tests | Passed / failed                      |
|    |                       |                           |         |             | for s    | safety requirements:                         |                                      |
|    |                       |                           |         |             | 1        |  | 0.5                                  |
|    |                       |                           |         |             | - ele    | ctrodynamic withstand current                | 0.5 to 320 kA;                       |
|    |                       |                           |         |             | - the    | ermal withstand current                      | 0,5 to 120 kA                        |
| 35 | GOST 20248 Section 4  | 1                         |         |             | Che      | cking of external view, correctness of       | Compliant/                           |
|    |                       |                           |         |             | fulfi    | l operating circuits, marking                | noncompliant                         |
| 36 | GOST 20248 Section 7  | 1                         |         |             | Test     | ts of mechanical strengthof elements of      |                                      |
|    |                       |                           |         |             | cons     | struction during multiple opera-             |                                      |
|    |                       |                           |         |             | tions    | s, including during Tests for safety re-     |                                      |
|    |                       |                           |         |             | quir     | ements:                                      |                                      |
|    |                       |                           |         |             | - coi    | ntrol of mechanicalcharacteristics and       | Compliant/                           |
|    |                       |                           |         |             | serv     | iceability of operation mechanisms           | noncompliant                         |
|    |                       |                           |         |             | - che    | ecking of forces during operation            | Compliant/                           |
|    |                       |                           |         |             |          |  | noncompliant                         |
|    |                       |                           |         |             | - che    | ecking of blockings operation                | 1 to 10 000 N                        |
|    |                       |                           |         |             |          |  | Compliant/                           |
|    |                       |                           |         |             | - che    | ecking of operatingequipment                 | noncompliant                         |
|    |                       |                           |         |             |          |  | compliant/                           |
| 27 |                       |                           |         |             | <u> </u> |  | noncompliant                         |
| 51 | GUS1 20248 Section 13 |                           |         |             |          | Control assembly and mutual replace-         | Compliant/                           |
|    |                       |                           |         |             |          | ment of one-type withdrawable of appa-       | noncompliant                         |
|    |                       |                           |         |             |          | ratuses, including for fests for safety      |                                      |
|    |                       |                           |         |             |          | requirements.                                | 1  mmto  5 000  mm                   |
|    |                       |                           |         |             |          | - geometrical dimensions                     | 1  minu 5 000  min<br>1 to 10 000 kg |
|    |                       |                           |         |             |          | - checking of blockings operation            | 1 to 10 000 kg                       |
| 38 | GOST 20248 Section 12 | 1                         |         |             | ŀ        | Tests for strength during transporting       | Passed / failed                      |
|    |                       |                           |         |             |          | External, checking of serviceability         | 1 45500 / 141104                     |

|    |                                       | 1  |              |             |   |                                |
|----|---------------------------------------|--|--------------|-------------|---|--------------------------------|
|    |                                       |  |              |             | ofelements and package                      | Compliant/                     |
|    |                                       |  |              |             |   | noncompliant                   |
| 39 | GOST 20248 Section 14                 | Prefabricated substations                | 27.11.4      | 8537 200000 | Tests for compliance with safety re-        | compliant/                     |
|    |                                       | (KTP)                                    |              |             | quirements                                  | noncompliant                   |
|    |                                       |  |              |             |   | _                              |
| 40 | GOST 19294 §5.10                      | Low power general purpose                | 27.11.4      | 8504        | Temperature rise tests with rated current:  | Passed / failed                |
|    |                                       | transformers for voltageto               |              |             | - temperature rise                          | 1 to 300 <sup>°</sup> C        |
|    |                                       | 1000 V*                                  |              |             | - measurement of resistance                 | 1 μ $\Omega$ to 2000 $\Omega$  |
| 41 | GOST 19294 §5.12.1                    |  |              |             | Measurement of Insulation resistance.       | $10^{-3}$ to $10^{6}\Omega$ .  |
|    | , , , , , , , , , , , , , , , , , , , |  |              |             |   | Compliant/                     |
|    |                                       |  |              |             |   | noncompliant                   |
| 42 | GOST 19294 §5.3                       |  |              |             | Test of insulation with increased voltage   | 0 to 5 kV                      |
|    | 0                                     |  |              |             | Č   | compliant/                     |
|    |                                       |  |              |             |   | noncompliant                   |
| 43 | GOST 19294 §5.11                      |  |              |             | Tests for withstand during short-circuits   | 0.1 to 0.5 kA                  |
|    |                                       |  |              |             | 0.1 to 2 kV                                 | compliant/                     |
|    |                                       |  |              |             | ,   | noncompliant                   |
| 44 | GOST 8024 Section 2                   | High-voltage circuit-                    | 27.12        | 8535        | Temperature rise tests with rated current:  | Passed / failed                |
|    |                                       | breakers, disconnectors and              | 27.11        | 8537        | - current                                   | 10 to 20 000 A                 |
|    |                                       | earthing switches, fault in-             |              | 8504        | - temperature rise                          | 1 to $300^{\circ}$ C           |
|    |                                       | terrupters and short-circuit             |              | 8046        | - measurement of resistance                 | 1 $\mu\Omega$ to 2000 $\Omega$ |
|    |                                       | makers. Switchgears type of              |              |             |   |                                |
|    |                                       | KRU and KSO, switchgears                 |              |             |   |                                |
|    |                                       | with $SE_{\epsilon}$ insulation(GIS).    |              |             |   |                                |
|    |                                       | current transformers.                    |              |             |   |                                |
|    |                                       | busducts, bushing insulators             |              |             |   |                                |
| 45 | GOST 1516.38 4.14                     | AC current electrical instal-            | 27.12.1      | 8504        | Tests of insulation of control circuits, of | 0 to 5 kV                      |
|    | 0                                     | lations of 3 to 750 kV                   | 27.12.2      | 8535        | auxiliary circuits                          | Compliant /                    |
|    |                                       |  | 27.12.3      | 8536        | (0  to  5  kV)                              | noncompliant                   |
|    |                                       |  | 27.12.4      | 8537        |   | nonvompnum                     |
|    |                                       |  |              | 8544        |   |                                |
|    |                                       |  |              | 8546        |   |                                |
| 46 | GOST 1516.3 § 13.6                    | Switchgears with SF <sub>6</sub> insula- | 27.12.10.190 | 8537 200000 | Tests of insulation of control circuits, of | 0 to 5 kV                      |
|    | 0                                     | tion (GIS) of 110 kV and                 |              |             | auxiliary circuits                          | Compliant /                    |
|    |                                       | higher                                   |              |             | (0  to  5  kV)                              | noncompliant                   |
|    |                                       |  |              |             |   | noncompliant                   |
| 47 | GOST R 52565 §9.1                     | AC current circuit-breakers              | 27.12.10.110 | 8535 210000 | Tests for compliance to requirements to     |                                |
|    | 0                                     | for voltage 3 to 750 kV                  |              | 8535 290000 | construction and requirements to assem-     |                                |
|    |                                       |  |              |             | bling drawing, completeness, including      |                                |

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|    | 1                         | 1                           |              |             | 1   |                |
|    |                           |                             |              |             | during safety checking:                     |                |
|    |                           |                             |              |             | - geometrical, mounting and connecting      | 0 to 5000 mm   |
|    |                           |                             |              |             | dimensions                                  | Compliant /    |
|    |                           |                             |              |             |   | noncompliant   |
|    |                           |                             |              |             | - mass                                      | 0 to 10000 kg  |
|    |                           |                             |              |             |   | Compliant /    |
|    |                           |                             |              |             |   | noncompliant   |
|    |                           |                             |              |             | - condition of protective surfaces          | Compliant /    |
|    |                           |                             |              |             |   | noncompliant   |
|    |                           |                             |              |             | - condition of surface of external insulat- | Compliant /    |
|    |                           |                             |              |             | ing parts                                   | noncompliant   |
|    |                           |                             |              |             | - correctness of filling of nameplate       | Compliant /    |
|    |                           |                             |              |             |   | noncompliant   |
|    |                           |                             |              |             | - correctness of marking and branding       | Compliant /    |
|    |                           |                             |              |             |   | noncompliant   |
|    |                           |                             |              |             | - compliance of mounted auxiliary           | Compliant /    |
|    |                           |                             |              |             | equipment                                   | noncompliant   |
| 48 | GOST R 52565 §9.2.1-9.2.3 | AC current circuit-breakers | 27.12.10.110 | 8535 210000 | Tests for mechanical capability, includ-    |                |
|    |                           | for voltage 3 to 750 kV     |              | 8535 290000 | ing during safety checking:                 |                |
|    |                           |                             |              |             | - control of mechanical, electrical and     | (0 to 600 V);  |
|    |                           |                             |              |             | time characteristics                        | (0 to 300 A);  |
|    |                           |                             |              |             |   | (0 to 300 mm); |
|    |                           |                             |              |             |   | (0 to 30 min); |
|    |                           |                             |              |             |   | Compliant /    |
|    |                           |                             |              |             |   | noncompliant   |
|    |                           |                             |              |             | - correct operation of device mechanisms    | Compliant /    |
|    |                           |                             |              |             | and blockings                               | noncompliant   |
|    |                           |                             |              |             | - forces                                    | 0 to 10000 N   |
|    |                           |                             |              |             |   | Compliant /    |
|    |                           | 1                           |              |             |   | noncompliant   |
| 49 | GOST R 52565 § 9.2.4      |                             |              |             | Tests for reliability of mechanical capa-   |                |
|    |                           |                             |              |             | bility:                                     |                |
|    |                           |                             |              |             | - control of mechanical, electrical and     | (0 to 600 V);  |
|    |                           |                             |              |             | time characteristics                        | (0 to 300 A);  |
|    |                           |                             |              |             |   | (0 to 300 mm); |
|    |                           |                             |              |             |   | (0 to 30 min); |
|    |                           |                             |              |             |   | Compliant /    |
|    |                           |                             |              |             |   | noncompliant   |
|    |                           |                             |              |             | - control of serviceability of              | Compliant /    |

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|    |                         |                             |              |             |  |                                |
|    |                         |                             |              |             | operationmechanismes                       | noncompliant                   |
|    |                         |                             |              |             | - control of electrical resistance         | (0 to 1000 Ω)                  |
|    |                         |                             |              |             |  | Compliant /                    |
|    |                         |                             |              |             |  | noncompliant                   |
| 50 | GOST R 52565 § 9.3.5    |                             |              |             | Control of electrical strength of insula-  | Compliant /                    |
|    |                         |                             |              |             | tion after switching tests and mechanical  | noncompliant                   |
|    |                         |                             |              |             | wearing tests                              |                                |
| 51 | GOST R 52565 §9.4       |                             |              |             | Temperature rise tests with rated current: | Passed/ failed                 |
|    |                         |                             |              |             |  |                                |
|    |                         |                             |              |             | - current                                  | 10 to 20 000 A                 |
|    |                         |                             |              |             | - temperature rise                         | 1 to 300 °C                    |
|    |                         |                             |              |             | - electricalresistance                     | 1 $\mu\Omega$ to 1000 $\Omega$ |
|    |                         |                             |              |             | - own times                                | 1 to 100 ms                    |
|    |                         |                             |              |             |  |                                |
| 52 | GOST R 52565 §9.5       | AC current circuit-breakers | 27.12.10.110 | 8535 210000 | Short-time withstand tests:                | Passed /                       |
|    |                         | for voltage 3 to 750 kV     |              | 8535 290000 |  | failed                         |
|    |                         |                             |              |             | - electrodynamic withstand current         | 0,1 to 320 kA                  |
|    |                         |                             |              |             | - thermal withstand current                | 0,1 to 120 kA                  |
|    |                         |                             |              |             | - own times                                | 1 to 100 ms                    |
|    |                         |                             |              |             | - force                                    | 1 to 10 000 N                  |
|    |                         |                             |              |             | - control of time characteristics          | 0 to 30 min                    |
|    |                         |                             |              |             |  |                                |
| 53 | GOST R 52565 §9.6 - 9.8 |                             |              |             | Tests for switching capability:            | Compliant / noncompliant       |
|    |                         |                             |              |             | - amplitude voltage                        | (0 to 308 kV)                  |
|    |                         |                             |              |             | (0 to 308 kV)                              |                                |
|    |                         |                             |              |             | - RMS voltage                              | (0 to 220 kV)                  |
|    |                         |                             |              |             | (0 to 220 kV)                              |                                |
|    |                         |                             |              |             | - RMS value of short-circuit current       | (0 to 63 kA)                   |
|    |                         |                             |              |             | (0 to 63 kA)                               |                                |
|    |                         |                             |              |             | - peak value of short-circuit current      | (0 to 170 kA)                  |
|    |                         |                             |              |             | (0 to 170 kA)                              |                                |
|    |                         |                             |              |             | - control of mechanical, electrical and    | (0 to 600 V);                  |
|    |                         |                             |              |             | time characteristics                       | (0 to 300 A);                  |
|    |                         |                             |              |             |  | (0 to 300 mm);                 |
|    |                         |                             |              |             |  | (0 to 30 min);                 |
|    |                         |                             |              |             |  | Compliant /                    |
|    |                         |                             |              |             |  | noncompliant                   |
| 54 | GOST 17717 § 7.1        | High-voltage load switches  | 27.12.10.110 | 8535 210000 | Tests for compliance to requirements to    |                                |
|    |                         |                             |              | 8535 290000 | construction and requirements to assem-    |                                |

| 1  | 2                                   | 3                          | 4            | 5                          | 6   | 7  |
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| -  |                                     |                            |              |                            |   |  |
|    |                                     |                            |              |                            | <ul> <li>bling drawing, completeness, including<br/>during safety checking: <ul> <li>geometrical, mounting and connecting<br/>dimensions</li> <li>mass</li> </ul> </li> <li>condition of protection surfaces <ul> <li>condition of surface of external insulat-<br/>ing parts</li> <li>condition of surface areas for ground-<br/>ing bolts and presence of sign "Earth"</li> <li>correctness of filling of nameplate</li> <li>correctness of marking and branding</li> </ul> </li> </ul> | (0 to 5000 mm)<br>Compliant /<br>noncompliant<br>(0 to 10000 kg)<br>Compliant /<br>noncompliant<br>Compliant /<br>noncompliant<br>Compliant /<br>noncompliant<br>Compliant /<br>noncompliant<br>Compliant /<br>noncompliant<br>Compliant /<br>noncompliant         |
| 55 | GOST 17717 §7.3<br>GOST 17717 § 7.4 | High-voltage load switches | 27.12.10.110 | 8535 210000<br>8535 290000 | Temperature rise tests with rated current:<br>- current<br>- temperature rise<br>- own times<br>Tests for mechanical capability and<br>wearing tests, including during safety<br>checking:<br>- control of mechanical, electrical and<br>time characteristics<br>- control of correct operation of device<br>mechanisms and blockings<br>- forces   | Passed/ failed<br>10 to 20 kA<br>1 to 300 °C<br>1 to 100 ms<br>(0 to 600 V);<br>(0 to 300 A);<br>(0 to 300 mm);<br>(0 to 300 mm);<br>(0 to 30 min);<br>Compliant /<br>noncompliant<br>Compliant /<br>noncompliant<br>(0 to 10000 N)<br>Compliant /<br>noncompliant |
| 57 | GOST 17717 § 7.5                    |                            |              |                            | Short-time withstand tests:<br>- electrodynamic withstand current<br>- thermal withstand current<br>- own times   | Passed /failed<br>0,1 to 320 kA<br>0,1 to 120 kA<br>1 to 100 ms  |

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| r  |                     |                             | •            |             |   |                                       |
|    |                     |                             |              |             | - force   | 1 to 10 000 N                         |
|    |                     |                             |              |             | - control of time characteristics                     | 0 to 30 мин                           |
| 58 | GOST 17717 § 7.7    |                             |              |             | Tests for switching capability:                       | Compliant /                           |
|    |                     |                             |              |             |   | noncompliant                          |
|    |                     |                             |              |             | - amplitude voltage                                   | (0 to 308 kV)                         |
|    |                     |                             |              |             | - RMS voltage   | (0 to 220 kV)                         |
|    |                     |                             |              |             | - RMS value of short-circuit current                  | (0 to 63 kA)                          |
|    |                     |                             |              |             | - peak value of short-circuit current                 | (0 to 170 kA)                         |
|    |                     |                             |              |             | - control of mechanical, electrical and               | (0 to 600 V);                         |
|    |                     |                             |              |             | time characteristics                                  | (0 to 300 A);                         |
|    |                     |                             |              |             |   | (0 to 300 mm);                        |
|    |                     |                             |              |             |   | (0 to 30 min);                        |
|    |                     |                             |              |             |   | Compliant /                           |
|    |                     |                             |              |             |   | noncompliant                          |
| 59 | GOST 17717 § 7.8.1  |                             |              |             | Type tests for reliability of mechanical              | Passed / failed                       |
|    |                     |                             |              |             | capability  |                                       |
| 60 | GOST 18397 §7.3     | AC current circuit-breakers | 27.12.10.110 | 8535 210000 | Temperature rise tests with rated current:            | Passed/                               |
|    |                     | for voltage 6 to 220 kV     |              | 8535 290000 |   | failed                                |
|    |                     |                             |              |             | - current   | 10 to 20 000 A                        |
|    |                     |                             |              |             | - temperature rise                                    | 1 to 300 °C                           |
|    |                     |                             |              |             | - electricalresistance                                | 1 μ $\Omega$ to 2000 $\Omega$         |
|    |                     |                             |              |             | - own times   | 1 to 100 ms                           |
| 61 | GOST 18397 §7.4     |                             |              |             | Short-time withstand tests:                           | Passed /                              |
|    |                     |                             |              |             |   | failed                                |
|    |                     |                             |              |             | - electrodynamic withstand current                    | 0,1 to 320 kA                         |
|    |                     |                             |              |             | - thermal withstand current                           | 0,1 to 120 kA                         |
|    |                     |                             |              |             | - own times   | 1 to 100 ms                           |
|    |                     |                             |              |             | - force   | 1 to 10 000 N                         |
|    | COST 19207 87 5 7 7 |                             |              |             | - control of time characteristics                     | 0 to 30 min                           |
| 62 | GUST 18397 §7.3-7.7 |                             |              |             | Tests for switching capability:                       | Compliant /                           |
|    |                     |                             |              |             | ·····1'····1·····                                     | noncompliant                          |
|    |                     |                             |              |             | - amplitude voltage                                   | (0  to  308  kV)                      |
|    |                     |                             |              |             | - KIVIS VOItage<br>DMS value of chart circuit current | (0  to  220  KV)<br>(0  to  62  tr A) |
|    |                     |                             |              |             | - Kivis value of short-circuit current                | (0  to  0.5  KA)                      |
|    |                     |                             |              |             | - peak value of short-circuit current                 | (0  to  1/0  KA)<br>(0 to 600 V):     |
|    |                     |                             |              |             | - control of mechanical, electrical and               | (0 to 000 v);                         |
|    |                     |                             |              |             |   | (0  to  300  A),                      |
|    |                     |                             |              |             |   | (0  to  300  min);                    |
|    |                     |                             |              |             |   | (0 to 50 mm);                         |

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|    |                          |                         |          |      |  |  |
|    |                          |                         |          |      |  | Compliant/   |
|    |                          |                         |          |      |  | noncompliant   |
| 63 | GOST 18397 §7.9          |                         |          |      | Tests for mechanical capability and reli-  | Passed /   |
|    |                          |                         |          |      | ability of mechanical capability:          | failed   |
|    |                          |                         |          |      | - control of mechanical, electrical and    | (0 to 600 V);  |
|    |                          |                         |          |      | time characteristics                       | (0 to 300 A);  |
|    |                          |                         |          |      |  | (0 to 300 mm);   |
|    |                          |                         |          |      |  | (0 to 30 min);   |
|    |                          |                         |          |      |  | Compliant /  |
|    |                          |                         |          |      |  | noncompliant   |
|    |                          |                         |          |      | - control of serviceabilityof              | Compliant /  |
|    |                          |                         |          |      | operationmechanismes                       | noncompliant   |
| 64 | GOST 18397§ 7.10         |                         |          |      | Tests for strength during transporting.    | Compliant /  |
|    |                          |                         |          |      | External examination of circuit-breaker    | noncompliant   |
|    |                          |                         |          |      | package                                    |  |
| 65 | IEC 62271–100 § 7.4      | High-voltage AC current | 27.12.10 | 8535 | Measurement of electrical resistance       | (0 to 1000 Ω)  |
|    |                          | circuit-breakers        |          |      |  | Compliant /  |
|    |                          | -                       |          |      |  | noncompliant   |
| 66 | IEC 62271–100 § 7.5      |                         |          |      | Temperature rise tests with rated current: | Passed/ failed   |
|    |                          |                         |          |      | - current                                  |  |
|    |                          |                         |          |      | - temperature rise                         | 10 to 20 000 A   |
|    |                          |                         |          |      | - resistance                               | 1 to 300 °C  |
|    |                          |                         |          |      | - own times                                | 1 $\mu\Omega$ to 2000 $\Omega$   |
| (7 | IEC 62271 100 8 7 6      | 4                       |          |      | Chart time with stand tasta                |  |
| 0/ | IEC 022/1-100 § 7.0      |                         |          |      | Short-time withstand tests:                | failed   |
|    |                          |                         |          |      | alastro duranzia mithatan dagumant         | $\begin{array}{c} \text{Ialled} \\ 0.1 \text{ to } 220 \text{ tr} \Lambda \end{array}$ |
|    |                          |                         |          |      | thermal withstand current                  | 0.1 to $320$ kA  |
|    |                          |                         |          |      | - own times                                | 1  to  100  ms   |
|    |                          |                         |          |      | - force                                    | 1 to 10 000 N  |
|    |                          |                         |          |      | - control of time characteristics          | 0 to 30 min  |
|    |                          |                         |          |      | control of time characteristics            | 0 to 50 mm   |
| 68 | IEC 62271–100 § 7.101.1, | 1                       |          |      | Tests for mechanical capability and        |  |
|    | 7.101.2                  |                         |          |      | wearing tests, including during safety     |  |
|    |                          |                         |          |      | checking:                                  |  |
|    |                          |                         |          |      | control of mechanical, electrical and      | (0 to 600 V);  |
|    |                          |                         |          |      | time characteristics                       | (0 to 300 A);  |
|    |                          |                         |          |      |  | (0 to 300 mm);   |
|    |                          |                         |          |      |  | (0 to 30 min);   |

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|    |                             | 1                       |          |      | T  | 1              |
|    |                             |                         |          |      |  | Compliant /    |
|    |                             |                         |          |      |  | noncompliant   |
|    |                             |                         |          |      | - control of correct operation of device | Compliant /    |
|    |                             |                         |          |      | mechanisms and blockings                 | noncompliant   |
|    |                             |                         |          |      | - forces                                 | (0 to 10000 N) |
|    |                             |                         |          |      |  | Compliant /    |
|    |                             |                         |          |      |  | noncompliant   |
| 69 | IEC 62271–100 § 7.102-7.112 |                         |          |      | Tests for switching capability:          | Compliant /    |
|    |                             |                         |          |      |  | noncompliant   |
|    |                             |                         |          |      | - amplitude voltage                      | (0 to 308 kV)  |
|    |                             |                         |          |      | (0 to 308 kV)                            |                |
|    |                             |                         |          |      | - RMS voltage                            | (0 to 220 kV)  |
|    |                             |                         |          |      | (0 to 220 kV)                            |                |
|    |                             |                         |          |      | - RMS value of short-circuit current     | (0 to 63 kA)   |
|    |                             |                         |          |      | (0 to 63 kA)                             |                |
|    |                             |                         |          |      | - peak value of short-circuit current    | (0 to 170 kA)  |
|    |                             |                         |          |      | (0 to 170 kA)                            |                |
|    |                             |                         |          |      | - control of mechanical, electrical and  | (0 to 600 V);  |
|    |                             |                         |          |      | time characteristics                     | (0 to 300 A);  |
|    |                             |                         |          |      |  | (0 to 300 mm); |
|    |                             |                         |          |      |  | (0 to 30 min); |
|    |                             |                         |          |      |  | Compliant /    |
|    |                             |                         |          |      |  | noncompliant   |
| 70 | IEC 62271–101 Sections 4-7  | High-voltage AC current | 27.12.10 | 8535 | Tests for switching capability:          | Compliant /    |
|    |                             | circuit-breakers        |          |      |  | noncompliant   |
|    |                             |                         |          |      | - amplitude voltage                      | (0 to 308 kV)  |
|    |                             |                         |          |      | (0 to 308 kV)                            |                |
|    |                             |                         |          |      | - RMS voltage                            | (0 to 220 kV)  |
|    |                             |                         |          |      | (0 to 220 kV)                            |                |
|    |                             |                         |          |      | - RMS value of short-circuit current     | (0 to 63 kA)   |
|    |                             |                         |          |      | (0 to 63 kA)                             |                |
|    |                             |                         |          |      | - peak value of short-circuit current    | (0 to 170 kA)  |
|    |                             |                         |          |      | (0 to 170 kA)                            |                |
|    |                             |                         |          |      | - control of mechanical, electrical and  | (0 to 600 V);  |
|    |                             |                         |          |      | time characteristics                     | (0 to 300 A);  |
|    |                             |                         |          |      |  | (0 to 300 mm); |
|    |                             |                         |          |      |  | (0 to 30 min); |
|    |                             |                         |          |      |  | Compliant /    |
|    |                             |                         |          |      |  | noncompliant   |

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|    |                                       |                              |          |      |  |                                |
| 71 | IEC 62271–103§ 7.4                    | High-voltage AC current      | 27.12.10 | 8535 | Measurement of electrical resistance       | (0 to 1000 Ω)                  |
|    |                                       | circuit-breakers for voltage |          |      |  | Compliant /                    |
|    |                                       | above 1 kV up to 52 kV in-   |          |      |  | noncompliant                   |
|    |                                       | cluding                      |          |      |  | 1                              |
| 72 | IEC 62271–103 § 7.5                   |                              |          |      | Temperature rise tests with rated current: | Passed/ failed                 |
|    | , , , , , , , , , , , , , , , , , , , |                              |          |      | 1  |                                |
|    |                                       |                              |          |      | - current                                  | 10 to 20 000 A                 |
|    |                                       |                              |          |      | - temperature rise                         | 1 to 300 °C                    |
|    |                                       |                              |          |      | - resistance                               | 1 $\mu\Omega$ to 2000 $\Omega$ |
|    |                                       |                              |          |      | - own times                                | 1 to 100 ms                    |
| 73 | IEC 62271–103 § 7.6                   |                              |          |      | Short-time withstand tests:                | Passed / failed                |
|    | -                                     |                              |          |      | - electrodynamic withstand current         | 0,1 to 320 kA                  |
|    |                                       |                              |          |      | - thermal withstand current                | 0,1 to 120 kA                  |
|    |                                       |                              |          |      | - own times                                | 1 to 100 ms                    |
|    |                                       |                              |          |      | - force                                    | 1 to 10 000 N                  |
|    |                                       |                              |          |      | - control of time characteristics          | 0 to 30 min                    |
|    |                                       |                              |          |      |  |                                |
| 74 | IEC 62271–103 § 7.101                 |                              |          |      | Tests for switching capability:            | Compliant /                    |
|    |                                       |                              |          |      |  | noncompliant                   |
|    |                                       |                              |          |      | - amplitude voltage                        | (0 to 308 kV)                  |
|    |                                       |                              |          |      | (0 to 308 kV)                              |                                |
|    |                                       |                              |          |      | - RMS voltage                              | (0 to 220 kV)                  |
|    |                                       |                              |          |      | (0 to 220 kV)                              |                                |
|    |                                       |                              |          |      | - RMS value of short-circuit current       | (0 to 63 kA)                   |
|    |                                       |                              |          |      | (0 to 63 kA)                               |                                |
|    |                                       |                              |          |      | - peak value of short-circuit current      | (0 to 170 kA)                  |
|    |                                       |                              |          |      | (0 to 170 kA)                              |                                |
|    |                                       |                              |          |      | - control of mechanical, electrical and    | (0 to 600 V);                  |
|    |                                       |                              |          |      | time characteristics                       | (0 to 300 A);                  |
|    |                                       |                              |          |      |  | (0 to 300 mm);                 |
|    |                                       |                              |          |      |  | (0 to 30 min);                 |
|    |                                       |                              |          |      |  | Compliant /                    |
|    |                                       |                              |          |      |  | noncompliant                   |
| 75 | IEC 62271–103 § 7.102.1,              |                              |          |      | Tests for mechanical capability and        |                                |
|    | 7.102.2                               |                              |          |      | wearing tests, including during safety     |                                |
|    |                                       |                              |          |      | checking:                                  |                                |
|    |                                       |                              |          |      | - control of mechanical, electrical and    | (0 to 600 V);                  |
|    |                                       |                              |          |      | time characteristics                       | (0 to 300 A);                  |
|    |                                       |                              |          |      |  | (0 to 300 mm);                 |

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|    |                             |                            |          |      |  |                                |
|    |                             |                            |          |      |  | (0 to 30 min);                 |
|    |                             |                            |          |      |  | Compliant /                    |
|    |                             |                            |          |      |  | noncompliant                   |
|    |                             |                            |          |      | - control of correct operation of device   | Compliant /                    |
|    |                             |                            |          |      | mechanisms and blockings                   | noncompliant                   |
|    |                             |                            |          |      | - forces                                   | (0 to 10000 N)                 |
|    |                             |                            |          |      |  | Compliant /                    |
|    |                             |                            |          |      |  | noncompliant                   |
| 76 | IEC 62271–104 § 7.4         | High-voltage AC current    | 27.12.10 | 8535 | Measurement of electrical resistance       | (0 to 1000 Ω)                  |
|    |                             | circuit-breakers for rated |          |      |  | Compliant /                    |
|    |                             | voltages 52 kV and higher  |          |      |  | noncompliant                   |
| 77 | IEC 62271–104 § 7.5         |                            |          |      | Temperature rise tests with rated current: | Passed/ failed                 |
|    |                             |                            |          |      | - current                                  | 10 to 20 000 A                 |
|    |                             |                            |          |      | - temperature rise                         | 1 to $300 {}^{0}\text{C}$      |
|    |                             |                            |          |      | - resistance                               | 1 $\mu\Omega$ to 2000 $\Omega$ |
|    |                             | _                          |          |      | - own times                                | 1 to 100 ms                    |
| 78 | IEC 62271–104 § 7.6         |                            |          |      | Short-time withstand tests:                | Passed / failed                |
|    |                             |                            |          |      | - electrodynamic withstand current         | 0,1 to 320 kA                  |
|    |                             |                            |          |      | - thermal withstand current                | 0,1 to 120 kA                  |
|    |                             |                            |          |      | - own times                                | 1 to 100 ms                    |
|    |                             |                            |          |      | - force                                    | 1 to 10 000 N                  |
|    |                             | _                          |          |      | - control of time characteristics          | 0 to 30 min                    |
| 79 | IEC 62271–104 § 7.101.1-    |                            |          |      | Tests for mechanical capability and        |                                |
|    | 7.101.3                     |                            |          |      | wearing tests, including during safety     |                                |
|    |                             |                            |          |      | checking:                                  |                                |
|    |                             |                            |          |      | - control of mechanical, electrical and    | (0  to  600  V);               |
|    |                             |                            |          |      | time characteristics                       | (0 to 300 A);                  |
|    |                             |                            |          |      |  | (0 to 300 mm);                 |
|    |                             |                            |          |      |  | (0  to  30  min);              |
|    |                             |                            |          |      |  | Compliant /                    |
|    |                             |                            |          |      |  | noncompliant                   |
|    |                             |                            |          |      | - control of correct operation of device   | Compliant /                    |
|    |                             |                            |          |      | mechanisms and blockings                   | noncompliant                   |
|    |                             |                            |          |      | - forces                                   | (0 to 10000 N)                 |
|    |                             |                            |          |      |  | Compliant /                    |
|    |                             | 4                          |          |      |  | noncompliant                   |
| 80 | IEC 62271–104 § 7.102-7.109 |                            |          |      | Tests for switching capability:            | Compliant /                    |
|    |                             |                            |          |      |  | noncompliant                   |
|    |                             |                            |          |      | - amplitude voltage                        | (0 to 308 kV)                  |

| 1  | 2                          | 3                           | 4        | 5    | 6  | 7                 |
|----|----------------------------|-----------------------------|----------|------|--|-------------------|
|    |                            |                             |          |      |  |                   |
|    |                            |                             |          |      | (0 to 308 kV)<br>- RMS voltage<br>(0 to 220 kV)                      | (0 to 220 kV)     |
|    |                            |                             |          |      | - RMS value of short-circuit current $(0 \text{ to } 63 \text{ kA})$ | (0 to 63 kA)      |
|    |                            |                             |          |      | - peak value of short-circuit current<br>(0 to 170 kA)               | (0 to 170 kA)     |
|    |                            |                             |          |      | - control of mechanical, electrical and                              | (0 to 600 V);     |
|    |                            |                             |          |      | time characteristics   | (0 to 300 A);     |
|    |                            |                             |          |      |  | (0 to 300 mm);    |
|    |                            |                             |          |      |  | (0 to 30 min);    |
|    |                            |                             |          |      |  | Compliant /       |
|    |                            |                             |          |      |  | noncompliant      |
| 81 | IEC TR 62271–310 section 4 | High-voltage AC current     | 27.12.10 | 8535 | Tests for switching capability:                                      | Compliant /       |
|    |                            | circuit-breakers for rated  |          |      |  | noncompliant      |
|    |                            | voltage above 52 kV         |          |      | - amplitude voltage  | (0 to 308 kV)     |
|    |                            |                             |          |      | - RMS voltage  | (0 to 220 kV)     |
|    |                            |                             |          |      | - RMS value of short-circuit current                                 | (0 to 63 kA)      |
|    |                            |                             |          |      | - peak value of short-circuit current                                | (0 to 170 kA)     |
|    |                            |                             |          |      | - control of mechanical, electrical and                              | (0 to 600 V);     |
|    |                            |                             |          |      | time characteristics   | (0 to 300 A);     |
|    |                            |                             |          |      |  | (0 to 300 mm):    |
|    |                            |                             |          |      |  | (0  to  30  min): |
|    |                            |                             |          |      |  | Compliant /       |
|    |                            |                             |          |      |  | noncompliant      |
| 82 | GOST 14254 Section 12      | Degrees of protection, pro- | 27.12.1  | 8504 | Degree of protection for access to dan-                              | (0Xto 4X)         |
|    |                            | vided by enclosures         | 27.12.2  | 8535 | gerous parts   | Compliant /       |
|    |                            |                             | 27.12.3  | 8536 |  | noncompliant      |
|    |                            |                             | 27.12.4  | 8537 |  | -                 |
|    |                            |                             |          | 8546 |  |                   |
| 83 | GOST 23216 §5.2.4.1        | Electrical equipmentin      | 27.12.1  | 8504 | Tests for transporting strength:                                     | Passed /          |
|    |                            | package                     | 27.12.2  | 8535 |  | failed            |
|    |                            |                             | 27.12.3  | 8536 | - mass   | (0 to 10000 kg)   |
|    |                            |                             | 27.12.4  | 8537 |  | Compliant /       |
|    |                            |                             |          | 8544 |  | noncompliant      |
|    |                            |                             |          | 8546 | - completeness   | Compliant /       |
|    |                            |                             |          |      |  | noncompliant      |
|    |                            |                             |          |      | - external view  | Compliant /       |

| 1   | 2                   | 3                             | 4            | 5       | 6   | 7                                      |
|-----|---------------------|-------------------------------|--------------|---------|---|--|
|     |                     |                               |              |         |   |  |
|     |                     |                               |              |         |   | noncompliant                           |
| 84  | GOST 9920 Section 2 | AC current electrical instal- | 27.12.1      | 8504    | Relativecreepage distance (calculated).   | -                                      |
|     |                     | lations for voltage 3 to 750  | 27.12.2      | 8535    |   | Compliant /                            |
|     |                     | kV                            | 27.12.3      | 8536    | Creepage distance of external insulation  | noncompliant                           |
|     |                     |                               | 27.12.4      | 8537    |   | (0 to 5000 mm)                         |
|     |                     |                               |              | 8544    |   | Compliant /                            |
|     |                     |                               |              | 8546    |   | noncompliant                           |
| 85  | GOST R 52726 § 8.1  | AC current disconnectors      | 27.12.10.120 | 8535 30 | Tests for complianceto requirementsof   |  |
|     |                     | and earthing switches for     |              |         | construction and requirements assembling  |  |
|     |                     | voltage above 1 kV and their  |              |         | drawing, completeness, including during   |  |
|     |                     | motors                        |              |         | safety checking:  |  |
|     |                     |                               |              |         | - geometrical, mounting and connecting  | (1 to 5000 mm)                         |
|     |                     |                               |              |         | dimensions  | Compliant /                            |
|     |                     |                               |              |         |   | noncompliant                           |
|     |                     |                               |              |         | - mass  | (0 to 10000 kg)                        |
|     |                     |                               |              |         |   | Compliant /                            |
|     |                     |                               |              |         |   | noncompliant                           |
|     |                     |                               |              |         | - condition of protective surfaces  | Compliant /                            |
|     |                     |                               |              |         |   | noncompliant                           |
|     |                     |                               |              |         | - condition of surface of external insulat-   | Compliant /                            |
|     |                     |                               |              |         | ing parts   | noncompliant                           |
|     |                     |                               |              |         | - correctness of filling of nameplate   | Compliant /                            |
|     |                     |                               |              |         |   | noncompliant                           |
|     |                     |                               |              |         | - correctness of marking and branding   | Compliant /                            |
|     |                     |                               |              |         |   | noncompliant                           |
|     |                     |                               |              |         | - correctness of regulation   | Compliant /                            |
|     |                     |                               |              |         |   | noncompliant                           |
|     |                     |                               |              |         | - checking of contact pressure  | (1 to 10000 N)                         |
|     |                     |                               |              |         |   | Compliant /                            |
| 0.6 |                     |                               |              |         |   | noncompliant                           |
| 86  | GUST K 52726 § 8.2  |                               |              |         | i estis for mechanical capability, includ-  |  |
|     |                     |                               |              |         | ing during safety checking:   | $(0, t_{\sigma}, C, 0, 0, \mathbf{V})$ |
|     |                     |                               |              |         | - control of mechanical, electrical and   | (0  to  600  V);                       |
|     |                     |                               |              |         | time characteristics  | (0 to 300 A);                          |
|     |                     |                               |              |         |   | (0  to  500  mm);                      |
|     |                     |                               |              |         |   | (0 to 30 min);                         |
|     |                     |                               |              |         |   | Compliant /                            |
|     |                     |                               |              |         | f de la comptiene de de la comptiene de la comp |  |
| 1   |                     |                               |              |         | - correct operation of device mechanisms  | Compliant /                            |

| 1  | 2                           | 3 | 4 | 5 | 6  | 7                 |
|----|-----------------------------|---|---|---|--|-------------------|
|    |                             |   | 1 |   |  |                   |
|    |                             |   |   |   | and blockings                              | noncompliant      |
|    |                             |   |   |   | - Torces                                   | Compliant /       |
|    |                             |   |   |   |  | Noncompliant      |
|    |                             |   |   |   |  | ronomphane        |
| 87 | GOST R 52726 § 8.5.1-8.5.3, |   |   |   | Tests for reliability of mechanical capa-  |                   |
|    | 8.5.5                       |   |   |   | bility:                                    |                   |
|    |                             |   |   |   | - control of mechanical, electrical and    | (0 to 600 V);     |
|    |                             |   |   |   | time characteristics                       | (0 to 300 A);     |
|    |                             |   |   |   |  | (0 to 300 mm);    |
|    |                             |   |   |   |  | (0  to  30  min); |
|    |                             |   |   |   |  | Compliant /       |
|    |                             |   |   |   | control of cleatrical strength of insule   | noncompliant      |
|    |                             |   |   |   | tion                                       | noncompliant      |
|    |                             |   |   |   |  | (0  to  1000  O)  |
|    |                             |   |   |   | - control of electrical resistance         | Compliant /       |
|    |                             |   |   |   |  | noncompliant      |
| 88 | GOST R 52726 §8.5.4, 8.5.7, |   |   |   | Tests for mechanical capability, includ-   | •                 |
|    | 8.5.8                       |   |   |   | ing during safety checking:                |                   |
|    |                             |   |   |   | - control of mechanical, electrical and    | (0 to 600 V);     |
|    |                             |   |   |   | time characteristics                       | (0 to 300 A);     |
|    |                             |   |   |   |  | (0 to 300 mm);    |
|    |                             |   |   |   |  | (0  to  30  min); |
|    |                             |   |   |   |  | Compliant /       |
|    |                             |   |   |   | correct operation of device, mache         | Compliant         |
|    |                             |   |   |   | nisms and blockings                        | noncompliant      |
|    |                             |   |   |   | - forces                                   | (0  to  10000  N) |
|    |                             |   |   |   |  | Compliant /       |
|    |                             |   |   |   |  | noncompliant      |
| 89 | GOST R 52726 § 8.6.2        |   |   |   | Checking of blockingdevices, including     | Compliant /       |
|    |                             |   |   |   | during safety checking                     | noncompliant      |
| 90 | GOST R 52726 § 8.8          |   |   |   | Temperature rise tests with rated current: | Passed/ failed    |
|    |                             |   |   |   | - current                                  | 10 to 20 000 A    |
|    |                             |   |   |   | - temperature rise                         | 1 to 300 °C       |
|    |                             |   |   |   | - resistance                               | 1 μΩ to 2000 Ω    |
| 01 | GOST R 52726 8 8 9          |   |   |   | Short time withstand tests:                | Passed / failed   |
| 91 | UUSI K 32/20 8 0.9          |   |   |   | Short-ume withstand tests.                 | rasseu / Taneu    |

| 1   | 2                         | 3                      | 4       | 5       | 6  | 7                             |
|-----|---------------------------|------------------------|---------|---------|--|-------------------------------|
|     |                           |                        |         |         |  |                               |
|     |                           |                        |         |         | - electrodynamic withstand current         | 0,1 to 320 kA                 |
|     |                           |                        |         |         | - thermal withstand current                | 0,1 to 120 kA                 |
|     |                           |                        |         |         | - own times                                | 1 to 100 ms                   |
|     |                           |                        |         |         | - force                                    | 1 to 10 000 N                 |
|     |                           |                        |         |         | - control of time characteristics          | 0 to 30 min                   |
|     |                           |                        |         |         |  |                               |
| 92  | GOST R 52726 § 8.12       |                        |         |         | Tests for strength during transporting:    |                               |
|     |                           |                        |         |         | - visualchecking of serviceability         |                               |
|     |                           |                        |         |         | ofequipment and package                    | Passed /                      |
|     |                           |                        |         |         |  | failed                        |
| 93  | GOST R 52726 § 8.15- 8.17 |                        |         |         | Tests for switching capability:            | Compliant /                   |
|     |                           |                        |         |         |  | noncompliant                  |
|     |                           |                        |         |         | - amplitude voltage                        | (0 to 308 kV)                 |
|     |                           |                        |         |         | (0 to 308 kV)                              |                               |
|     |                           |                        |         |         | - RMS voltage                              | (0 to 220 kV)                 |
|     |                           |                        |         |         | (0 to 220 kV)                              |                               |
|     |                           |                        |         |         | - RMS value of short-circuit current       | (0 to 63 kA)                  |
|     |                           |                        |         |         | (0 to 63 kA)                               |                               |
|     |                           |                        |         |         | - peak value of short-circuit current      | (0 to 170 kA)                 |
|     |                           |                        |         |         | (0 to 170 kA)                              |                               |
|     |                           |                        |         |         | - control of mechanical, electrical and    | (0 to 600 V);                 |
|     |                           |                        |         |         | time characteristics                       | (0 to 300 A);                 |
|     |                           |                        |         |         |  | (0 to 300 mm);                |
|     |                           |                        |         |         |  | (0 to 30 min);                |
|     |                           |                        |         |         |  | Compliant /                   |
|     |                           | -                      |         |         |  | noncompliant                  |
| 94  | GOST R 52726 § 8.19       |                        |         |         | Checking of electrical resistanceof        | Compliant /                   |
|     |                           |                        |         |         | grounding circuit                          | noncompliant                  |
|     |                           |                        |         |         | - resistance                               | 1 μΩ to 2000 Ω                |
| 95  | GOST R 52726 § 8.20, 8.21 |                        |         |         | Tests of auxiliary contacts to short-      |                               |
|     |                           |                        |         |         | circuit current:                           |                               |
|     |                           |                        |         |         | - rated (short-time) current of            | (0 to 200 A)                  |
|     |                           |                        |         |         | switchingcontacts                          | Passed /                      |
|     |                           |                        |         | 0.5.7.7 | (0 to 200 A)                               | tailed                        |
| 96  | GUST R 55716 § 6.4        | High-voltage switching | 27.12.1 | 8535    | Measurement of electrical resistance       | $(0 \text{ to } 1000 \Omega)$ |
|     |                           | equipment              |         |         |  | Compliant /                   |
| e = |                           | 4                      |         |         |  | noncompliant                  |
| 97  | GOST R 55716 § 6.5        |                        |         |         | Temperature rise tests with rated current: | Passed/ failed                |
|     |                           |                        |         |         | - current                                  | 10 to 20 000 A                |

|     |                      |                            |         |      |  | On 61 pages, page 20           |
|-----|----------------------|----------------------------|---------|------|--|--------------------------------|
| 1   | 2                    | 3                          | 4       | 5    | 6  | 7                              |
|     |                      |                            |         |      |  |                                |
|     |                      |                            |         |      | - temperature rise                         | 1 to 300 <sup>0</sup> C        |
|     |                      |                            |         |      | - resistance                               | 1 μ $\Omega$ to 2000 $\Omega$  |
|     |                      |                            |         |      | - own times                                | 1 to 100 ms                    |
| 98  | GOST R 55716 § 6.6   |                            |         |      | Short-time withstand tests:                | Passed /                       |
|     |                      |                            |         |      | - electrodynamic withstand current         | failed                         |
|     |                      |                            |         |      | - thermal withstand current                | 0,1 to 320 kA                  |
|     |                      |                            |         |      | - own times                                | 0,1 to 120 kA                  |
|     |                      |                            |         |      | - force                                    | 1 to 100 ms                    |
|     |                      |                            |         |      |  | 1 to 10 000 N                  |
| 99  | IEC 62271–102 §7.4   | High-voltage AC current    | 27.12.1 | 8535 | Measurement of electrical resistance       | (0 to 1000 Ω)                  |
|     |                      | disconnectors and earthing |         |      |  | Compliant /                    |
|     |                      | switches                   |         |      |  | noncompliant                   |
| 100 | IEC 62271–102 §7.5   |                            |         |      | Temperature rise tests with rated current: | Passed/ failed                 |
|     |                      |                            |         |      | - current                                  | 10 to 20 000 A                 |
|     |                      |                            |         |      | - temperature rise                         | 1 to $300 {}^{0}\text{C}$      |
|     |                      |                            |         |      | - resistance                               | 1 $\mu\Omega$ to 2000 $\Omega$ |
|     |                      |                            |         |      |  |                                |
| 101 | IEC 62271–102 §7.6   |                            |         |      | Short-time withstand tests:                | Passed /failed                 |
|     |                      |                            |         |      | ale stud dama and a suith stand assumed    | 0.1.4- 220.1-4                 |
|     |                      |                            |         |      | - electrodynamic withstand current         | 0.1  to  120  kA               |
|     |                      |                            |         |      | - thermal whistand current                 | 0,1 to 120  KA                 |
|     |                      |                            |         |      | - Own times                                | 1 to 100 Ills                  |
|     |                      |                            |         |      | - lorce                                    | 1 to 10 000 N                  |
|     |                      |                            |         |      | - control of time characteristics          | 0 10 50 1111                   |
|     |                      |                            |         |      |  |                                |
| 102 | IEC 62271_102 87 102 | -                          |         |      | Tests for mechanical capability and reli   |                                |
| 102 | HEC 02271-102 §7.102 |                            |         |      | ability of mechanical capability:          |                                |
|     |                      |                            |         |      | ability of meenanical capability.          |                                |
|     |                      |                            |         |      | - control of mechanical electrical and     | (0  to  600  V)                |
|     |                      |                            |         |      | time characteristics                       | (0  to  300  A):               |
|     |                      |                            |         |      |  | (0 to 300 mm):                 |
|     |                      |                            |         |      |  | (0  to  30  min);              |
|     |                      |                            |         |      |  | Compliant /                    |
|     |                      |                            |         |      |  | noncompliant                   |
|     |                      |                            |         |      | - control of correct operation of device   | Compliant /                    |
|     |                      |                            |         |      | mechanisms and blockings                   | noncompliant                   |
|     |                      |                            |         |      | - forces                                   | (0  to  10000  N)              |
|     |                      |                            |         |      |  | Compliant /                    |

|     |                              |                            |              |             |   | On 61 pages, page 21 |
|-----|------------------------------|----------------------------|--------------|-------------|---|----------------------|
| 1   | 2                            | 3                          | 4            | 5           | 6   | 7                    |
|     |                              |                            |              |             |   |                      |
|     |                              |                            |              |             | - control of insulation                     | noncompliant         |
|     |                              |                            |              |             | control of institution                      | noncompliant         |
|     |                              |                            |              |             | - control of electrical resistance          | (0  to  1000  0)     |
| 103 | IEC 62271–102 87 101 · 7 106 | -                          |              |             | Tests for switching capability:             | Compliant /          |
| 105 | Annex B1: 87 107 Annex B3:   |                            |              |             | Tests for switching cupuolity.              | noncompliant         |
|     | 87.108. Annex B2             |                            |              |             | - amplitude voltage                         | (0  to  308  kV)     |
|     | 3                            |                            |              |             | (0  to  308  kV)                            |                      |
|     |                              |                            |              |             | - RMS voltage                               | (0  to  220  kV)     |
|     |                              |                            |              |             | (0  to  220  kV)                            |                      |
|     |                              |                            |              |             | - RMS value of short-circuit current        | (0 to 63 kA)         |
|     |                              |                            |              |             | (0 to 63 kA)                                |                      |
|     |                              |                            |              |             | - peak value of short-circuit current       | (0 to 170 kA)        |
|     |                              |                            |              |             | (0 to 170 kA)                               |                      |
|     |                              |                            |              |             |   |                      |
|     |                              |                            |              |             | - control of mechanical, electrical and     | (0 to 600 V);        |
|     |                              |                            |              |             | time characteristics                        | (0 to 300 A);        |
|     |                              |                            |              |             |   | (0 to 300 mm);       |
|     |                              |                            |              |             |   | (0 to 30 min);       |
|     |                              |                            |              |             |   | Compliant /          |
|     |                              |                            |              |             |   | noncompliant         |
| 104 | GOST R 52725 Section 8.18    | Non-linear surge arresters | 27.12.10.130 | 8535 400000 | Pressure-releif tests                       | 0,1 to 80 kA         |
|     |                              |                            |              |             |   | 0,1 to $2$ s         |
|     |                              |                            |              |             |   | compliant/           |
| 105 | COST 1(257 % C 2 12          |                            | 27 12 10 120 | 9525 400000 | Decourse and if to sta                      |                      |
| 105 | GUST 16357 §6.2.15           | Surge arresters with spark | 27.12.10.150 | 8555 400000 | Pressure-relefit tests                      | 0,1  to  40  kA      |
|     |                              | gaps                       |              |             |   | 0,1 to 2 s           |
|     |                              |                            |              |             |   | noncompliant         |
|     |                              |                            |              |             |   | noncompnant          |
| 106 | GOST 7746 § 9.1              | Current transformers       | 27.11.4      | 8504 310000 | Checking of external view and Checking      | compliant/           |
|     | 0                            |                            |              | 8504 320000 | for complianceto drawings, including for    | noncompliant         |
|     |                              |                            |              | 8504 330000 | Tests for safety requirements:              | 1                    |
|     |                              |                            |              |             | - geometrical dimensions                    | 1 mmto 5 000 mm      |
|     |                              |                            |              |             | - mass                                      | 1 to 10 000 kg       |
|     |                              |                            |              |             | - condition of protective surfaces          |                      |
|     |                              |                            |              |             | - condition of surface of external insulat- |                      |
|     |                              |                            |              |             | ing parts                                   |                      |
|     |                              |                            |              |             | - correctness of filling of nameplate       |                      |

| 1   | 2                 | 3 | 4 | 5 | 6  | 7                             |
|-----|-------------------|---|---|---|--|-------------------------------|
|     |                   |   | 1 |   |  |                               |
|     |                   |   |   |   | - correctness of marking and branding      |                               |
|     |                   |   |   |   | - completeness                             |                               |
|     |                   |   |   |   | - checking of operating forces             | 1 to 10 000 N                 |
|     |                   |   |   |   | - electricalresistanceof grounding con-    |                               |
|     |                   |   |   |   | ductor                                     | 1 μΩ to 2000 Ω                |
| 107 | GOST 7746 § 9.2.2 |   |   |   | Checking of creepage distance              | Passed / failed               |
|     |                   |   |   |   |  | 1 to 5 000 mm                 |
|     |                   |   |   |   |  |                               |
| 108 | GOST 7746 § 9.2.3 |   |   |   | Test of inter-turn insulation              | Passed / failed               |
|     |                   |   |   |   |  | 0,5 to 3 kV                   |
|     |                   |   |   |   |  |                               |
| 109 | GOST 7746 § 9.2.4 |   |   |   | Tests of electrical strength of insulation | Passed / failed               |
|     |                   |   |   |   | of secondarycoils to1 minpower-            | 0,5 to 5 kV                   |
|     |                   |   |   |   | frequency voltage, including for Tests     |                               |
|     |                   |   |   |   | for safety requirements:                   |                               |
| 110 | GOST 7746 § 9.2.6 |   |   |   | Test of inter-turn insulation              | Passed / failed               |
|     |                   |   |   |   |  |                               |
| 111 | GOST 7746 § 9.3   |   |   |   | Measurement of insulation resistanceof     | 1 κ $\Omega$ to 70 G $\Omega$ |
|     |                   |   |   |   | coils                                      | Compliant/noncompliant        |
|     |                   |   |   |   |  |                               |
| 112 | GOST 7746 § 9.6   |   |   |   | Checking of limitmultiplicity              | Compliant/                    |
|     |                   |   |   |   | (definition of fulluncertainty) of         | noncompliant                  |
|     |                   |   |   |   | secondarycoils for protection:             |                               |
|     |                   |   |   |   | - current                                  | 0,1 to 120 kA                 |
|     |                   |   |   |   | - fulluncertainty                          | 1 to 100 %                    |
|     |                   |   |   |   | Checking ofsafetyfactor of devices of      | Compliant/                    |
|     |                   |   |   |   | secondarycoils for measurement:            | noncompliant                  |
|     |                   |   |   |   | - current                                  | 0,1 to 120 kA                 |
|     |                   |   |   |   | - fulluncertainty                          | 1 to 100 %                    |
|     |                   |   |   |   |  |                               |
| 113 | GOST 7746 § 9.8   |   |   |   | Definition of magnetizing current of       | - 0,5 to 5 kV                 |
|     |                   |   |   |   | secondarycoils                             | - 1 to 100 A                  |
|     |                   |   |   |   |  | Compliant/                    |
|     |                   |   |   |   |  | noncompliant                  |
| 114 | GOST 7746 § 9.9   |   |   |   | Temperature rise tests with rated current: | Passed / failed               |
|     |                   |   |   |   | - current                                  | 10 to 20000 A                 |
|     |                   |   |   |   | - measurement of resistance                | 1 to 2000 Ω                   |
|     |                   |   |   |   | - temperature rise                         | 0 to 300° C                   |
|     |                   |   |   |   |  |                               |

| 1    | 2                     | 3            | 4       | 5           | 6   | 7   |
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|      |                       |              |         |             |   |   |
| 115  | GOST 7746 § 9.10      |              |         |             | Short-time withstand tests:                 | Passed /                                  |
|      |                       |              |         |             | - electrodynamic withstand current          | failed                                    |
|      |                       |              |         |             | - thermal withstand current                 | 0,1 to 320 kA                             |
|      |                       |              |         |             |   | 0,1 to 120 kA                             |
|      |                       |              |         |             |   |   |
| 116  | GOST 7746 § 9.11      |              |         |             | Measurement of resistanceof                 | Passed / failed                           |
|      |                       |              |         |             | secondarycoils toDC current                 | $1 \ \mu\Omega$ to 2000 $\Omega$          |
| 117  | GOST 7746 § 9.17      |              |         |             | Test of gas-filled transformers for inter-  | 0,1 to 40 kA                              |
|      |                       |              |         |             | nal arcing test                             | 0,1 to 0,5 s                              |
| 118  | GOST 1983 §9.1        | Voltage      | 27.11.4 | 8504 313100 | Checking for complianceto                   | Compliant/                                |
|      |                       | transformers |         | 8504 323000 | requirementsassembling drawing, includ-     | noncompliant                              |
|      |                       |              |         | 8504 330000 | ing for Tests for safety requirements:      |   |
|      |                       |              |         | 8504 340000 | - geometrical dimensions                    | 1 to 5000 mm                              |
|      |                       |              |         |             | - mass                                      | 1 to 10 000 kg                            |
|      |                       |              |         |             | - condition of protective surfaces          | compliant/                                |
|      |                       |              |         |             | - condition of surface of external insulat- | noncompliant                              |
|      |                       |              |         |             | ing parts                                   |   |
|      |                       |              |         |             | - correctness of filling of nameplate, cor- | compliant/                                |
|      |                       |              |         |             | rectness of marking and brand-              | noncompliant                              |
|      |                       |              |         |             | ing,completeness, checkingcondition of      |   |
|      |                       |              |         |             | grounding                                   |   |
| 119  | GOST 1983 § 9.3       |              |         |             | Measurement of Insulation resistanceof      | Passed / failed                           |
|      |                       | -            |         |             | coils                                       | 1 κΩ to 70 GΩ                             |
| 120  | GOST 1983 § 9.5       | -            |         |             | Measurement of no-load current              | 1 to 100 A                                |
| 121  | GOST 1983 § 9.9       |              |         |             | Temperature rise tests with rated current:  | Passed / failed                           |
|      |                       |              |         |             | - voltagesto 100 kV                         | 1 to 100 kV                               |
|      |                       |              |         |             | - temperature rise                          | 1 to 300°C                                |
|      |                       |              |         |             | - measurement of resistance                 | 1 μΩ to 2000 Ω                            |
| 122  | GOST 1983 §9.10, 9.11 |              |         |             | Test for withstandtoshort-circuit current:  | Passed / failed                           |
|      |                       |              |         |             | voltagesta 100 kV                           | $1 t_{0} 100 t_{V}$                       |
|      |                       |              |         |             | - voltagesto 100 KV                         | 1  to  100  KV<br>1 to $200^{0} \text{C}$ |
| 102  | COST 1082 80 10       | 4            |         |             | - temperature rise                          |   |
| 123  | 6051 1983 §9.19       |              |         |             | Cnecking of creepage distance               | Compliant/                                |
|      |                       |              |         |             |   | noncompliant                              |
| 10.6 | COST 1002 40 20       | 4            |         |             |   | 1 to 5 000 mm                             |
| 124  | GUST 1983 §9.20       |              |         |             | Measurement of resistance of coils to DC    | Compliant/                                |
|      |                       |              |         |             | current                                     | noncompliant                              |
|      |                       |              |         |             |   | 1 $\mu\Omega$ to 2000 $\Omega$            |

| 1   | 2                                       | 3                            | 4            | 5           | 6  | 7                         |
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|     |   |                              |              |             |  |                           |
| 125 | GOST 1983 § 9.21                        |                              |              |             | Test of gas-filled transformers for inter- | 0,1 to 40 kA              |
|     | , i i i i i i i i i i i i i i i i i i i |                              |              |             | nal arcing test                            | 0,1 to 0,5 s              |
|     |   |                              |              |             |  | compliant/                |
|     |   |                              |              |             |  | noncompliant              |
| 126 | GOST 1282 § 5.5, 5.6, 5.9               | Power capacitors and capaci- | 27.90.51;    | 8532        | Test of electrical strength of             | Passed / failed           |
|     |   | tive installations,          | 27.90.52     |             | insulationpower-frequency                  |                           |
|     |   | for increasing of power fac- |              |             | Not above 104 kV                           |                           |
| 127 | GOST 12.2.007.5                         | tor                          | 27.90.51;    | 8532        | Checking of external view of construc-     | compliant/                |
|     |   |                              | 27.90.52     |             | tion:                                      | noncompliant              |
|     |   |                              |              |             | - presence of grounding bolts;             | _                         |
|     |   |                              |              |             | -external view                             |                           |
|     |   |                              |              |             | - checking of Insulation resistance.       |                           |
|     |   |                              |              |             | Above 250 V                                |                           |
| 128 | GOST 14694 section 3                    | Switchgears type of KRU,     | 27.12.10.190 | 8537 200000 | Temperature rise tests with rated current: | Passed/ failed            |
|     |   | KSO for voltage 3 to 35 kV   |              |             | - current                                  | 10 to 20 000 A            |
|     |   |                              |              |             | - temperature rise                         | 1 to $300 {}^{0}\text{C}$ |
|     |   |                              |              |             | - Measurement of electrical resistance     | 1 μΩ to 2000 Ω            |
| 129 | GOST 14694 section 4                    | Switchgears type of KRU,     | 27.12.10.190 | 8537 200000 | Tests for mechanicalstrength and with-     |                           |
|     |   | GIS, KSO for voltage 3 to    |              |             | stand, electromechanicaltests, including   |                           |
|     |   | 35 kV                        |              |             | during safety checking:                    |                           |
|     |   |                              |              |             | - checking of installations of accessories | Compliant /               |
|     |   |                              |              |             | equipment and way of their bracing         | noncompliant              |
|     |   |                              |              |             | - measurement of travel value and          | (0 to 300 mm);            |
|     |   |                              |              |             | alignment of detachable contacts of main   | Compliant /               |
|     |   |                              |              |             | and auxiliary circuits                     | noncompliant              |
|     |   |                              |              |             | - checking of operating mechanismes of     | Passed/ failed            |
|     |   |                              |              |             | cubicle and withdrawable element           |                           |
|     |   |                              |              |             | - checking of switching equipment of       | Compliant /               |
|     |   |                              |              |             | main circuit                               | noncompliant              |
|     |   |                              |              |             | - determination of characteristics of      | (0 to 30 min)             |
|     |   |                              |              |             | switching equipment and motors             | Compliant /               |
|     |   |                              |              |             |  | noncompliant              |
|     |   |                              |              |             | - test of mechanical strength of elements  | (0 to 10000 N)            |
|     |   |                              |              |             | of construction                            |                           |
|     |   |                              |              |             | - test of devices, equipment and schemes   | Passed/ failed            |
|     |   |                              |              |             | of auxiliary circuits                      | Compliant / noncompliant  |
|     |   |                              |              |             | - test of blockings                        | Passed/ failed            |
|     |   |                              |              |             | - test of fixing devices                   | Passed/ failed            |
|     |   |                              |              |             | - test of earthing devices                 | Compliant /               |

|     |                       |  |              |             | - electricalInsulation resistance of main and auxiliary circuits   | noncompliant (0 to $50000M\Omega$ )   |
|-----|-----------------------|--|--------------|-------------|--|---|
| 130 | GOST 14694 §6.3       |  |              |             | Degree of protection for access to dan-<br>gerous parts, including during safety<br>checking   | (0X to 4X)<br>Compliant /<br>noncompliant   |
| 131 | GOST 14694 section 7  | Switchgears type of KRU,<br>KSO for voltage 3 to 35 kV         | 27.12.10.190 | 8537 200000 | Short-time withstand tests:<br>- electrodynamic withstand current<br>- thermal withstand current<br>- control of mechanical and time charac-<br>teristics  | Passed /failed<br>0,1 to 320 kA<br>0,1 to 120 kA<br>(0 to 30 min);<br>Compliant /<br>noncompliant   |
| 132 | GOST 14694 section 8  | Switchgears type of KRU,<br>GIS, KSO for voltage 3 to<br>35 kV | 27.12.10.190 | 8537 200000 | Tests for strength during transporting:<br>- mass<br>- checking of construction and operating<br>mechanismes<br>- checking of completeness<br>- checking of package  | Passed /<br>failed<br>(0 to 10000 kg)<br>Compliant /<br>noncompliant<br>Compliant /<br>noncompliant<br>Compliant /<br>noncompliant<br>Compliant /<br>noncompliant                                   |
| 133 | GOST 14694 section 9  | Switchgears type of KRU,<br>KSO for voltage 3 to 35 kV         | 27.12.10.190 | 8537 200000 | Tests for switching capability:<br>- amplitude voltage<br>- RMS voltage<br>- short-circuit current<br>- peak value of short-circuit current<br>- control of mechanical, electrical and<br>time characteristics | Compliant /<br>noncompliant<br>(0 to 80 kV)<br>(0 to 40,5 kV)<br>(0 to 63 kA)<br>(0 to 170 kA)<br>(0 to 170 kA)<br>(0 to 300 A);<br>(0 to 300 mm);<br>(0 to 30 min);<br>Compliant /<br>noncompliant |
| 134 | GOST 14694 section 10 | Switchgears type of KRU,<br>GIS, KSO for voltage 3 to          | 27.12.10.190 | 8537 200000 | Control of assembly, Tests for mutual replacement of one-  |   |

| 1   | 2                                | 3  | 4            | 5           | 6   | 7  |
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|     |                                  |  |              |             |   |  |
| 135 | GOST 14694 section 12            | 35 kV<br>Switchgears type of KRU.                              | 27.11.4      | 8537        | <ul> <li>typewithdrawableelements and external<br/>view, including during safety checking: <ul> <li>external examination and compliance to<br/>assembling drawings;</li> <li>checking of operating mechanismes of<br/>cubicle and withdrawable element</li> <li>test of blockings</li> <li>forces for handling of moving mecha-<br/>nism</li> <li>checking of electrical strength of insu-<br/>lation of maincircuits toshort-<br/>timeACvoltage</li> </ul> </li> </ul> | (0 to 5000 mm)<br>Compliant /<br>noncompliant<br>Compliant /<br>noncompliant<br>Passed / failed<br>(0 to 10000 N)<br>Compliant /<br>noncompliant<br>Passed / failed                                  |
| 155 |                                  | GIS, KSO, KTPfor voltage 3<br>to 35 kV                         | 27.12.10     | 0557        | <ul> <li>highest servicevoltage</li> <li>short-circuit current</li> <li>peak value of short-circuit current</li> <li>control of time characteristics</li> </ul>   | noncompliant<br>(0 to 40,5 kV)<br>(0 to 63 kA)<br>(0 to 170 kA)<br>(0 to 30 min)   |
| 136 | GOST 14694 section 13            | Switchgears type of KRU,<br>GIS, KSO for voltage 3 to<br>35 kV | 27.12.10.190 | 8537 200000 | Tests for switching capability during no-<br>load current of transformer for own<br>needs:<br>- amplitude voltage<br>- RMS voltage<br>- short-circuit current<br>- peak value of short-circuit current<br>- control of mechanical, electrical and<br>time characteristics   | Compliant /<br>noncompliant<br>(0 to 80 kV)<br>(0 to 40,5 kV)<br>(0 to 63 kA)<br>(0 to 170 kA)<br>(0 to 600 V);<br>(0 to 300 A);<br>(0 to 300 mm);<br>(0 to 300 min);<br>Compliant /<br>noncompliant |
| 137 | GOST 14693 § 5.4                 | Switchgears type of KRU,<br>GIS, KSO for voltage 3 to<br>35 kV | 27.12.10.190 | 8537 200000 | During Test of electrical strength of insu-<br>lation of auxiliary circuits, including<br>during safety checking  | (0 to 5 kV)<br>Passed/ failed  |
| 138 | GOST R 55190 § 5.2, 5.3.2-5.3.4, | Switchgears type of KRU,                                       | 27.12.10.190 | 8537 200000 | Checking for compliance of construction   |  |

| 1   | 2                                     | 3                          | 4 | 5 | 6  | 7                              |
|-----|---------------------------------------|----------------------------|---|---|--|--------------------------------|
|     |                                       |                            |   |   |  |                                |
|     | 5.10, 5.12, 5.21-5.23                 | GIS for voltage 3 to 35 kV |   |   | and assembling drawing, including for      |                                |
|     |                                       |                            |   |   | Tests for safety requirements              |                                |
|     |                                       |                            |   |   | - presence of grounding                    | Compliant /                    |
|     |                                       |                            |   |   |  | noncompliant                   |
|     |                                       |                            |   |   | - geometrical dimensions, mounting and     | (0 to 5000 mm)                 |
|     |                                       |                            |   |   | connecting                                 | Compliant /                    |
|     |                                       |                            |   |   |  | noncompliant                   |
|     |                                       |                            |   |   | - correctness of filling of nameplate      | Compliant /                    |
|     |                                       |                            |   |   | and correctness of marking                 | noncompliant                   |
|     |                                       |                            |   |   | - external view                            | Compliant /                    |
|     |                                       |                            |   |   |  | noncompliant                   |
|     |                                       |                            |   |   | - mass                                     | (0 to 10000 kg)                |
|     |                                       |                            |   |   |  | Compliant /                    |
|     |                                       |                            |   |   |  | noncompliant                   |
| 139 | GOST R 55190 § 5.11                   |                            |   |   | Checkingblockings devices, including       | Compliant /                    |
|     | -                                     |                            |   |   | for Tests for safety requirements          | noncompliant                   |
| 140 | GOST R 55190 § 6.3                    |                            |   |   | Measurement of electrical resistance       | $(0 \text{ to } 1000 \Omega)$  |
|     | , , , , , , , , , , , , , , , , , , , |                            |   |   |  | Compliant /                    |
|     |                                       |                            |   |   |  | noncompliant                   |
| 141 | GOST R 55190 § 6.4                    |                            |   |   | Temperature rise tests with rated current: | Passed/ failed                 |
|     | , v                                   |                            |   |   | - current                                  | 10 to 20 000 A                 |
|     |                                       |                            |   |   | - temperature rise                         | 1 to 300 <sup>0</sup> C        |
|     |                                       |                            |   |   | - resistance                               | 1 $\mu\Omega$ to 2000 $\Omega$ |
|     |                                       |                            |   |   |  |                                |
| 142 | GOST R 55190 § 6.5                    |                            |   |   | Short-time withstand tests:                | Passed / failed                |
|     |                                       |                            |   |   | - electrodynamic withstand current         | 0,1 to 320 kA                  |
| 1   |                                       |                            |   |   | - thermal withstand current                | 0,1 to 120 kA                  |
| 1   |                                       |                            |   |   | - own times                                | 1 to 100 ms                    |
|     |                                       |                            |   |   | - control of time characteristics          | 0 to 30 min                    |
| 143 | GOST R 55190 § 6.6                    |                            |   |   | Degree of protection for access to dan-    | (0Xto 4X)                      |
|     |                                       |                            |   |   | gerous parts, including during safety      | Compliant /                    |
|     |                                       |                            |   |   | checking.                                  | noncompliant                   |
| 144 | GOST R 55190 § 6.11                   |                            |   |   | Tests for switching capability:            | Compliant /                    |
|     |                                       |                            |   |   |  | noncompliant                   |
|     |                                       |                            |   |   | - amplitude voltage                        | (0 to 80 kV)                   |
| 1   |                                       |                            |   |   | - RMS voltage                              | (0 to 40,5 kV)                 |
|     |                                       |                            |   |   | - short-circuit current                    | (0 to 63 kA)                   |
| 1   |                                       |                            |   |   | - peak value of short-circuit current      | (0 to 170 kA)                  |
| 1   |                                       |                            |   |   | - control of mechanical, electrical and    | (0 to 600 V);                  |

|     |                                 |  |              |             |  | On 61 pages, page 28  |
|-----|---------------------------------|--|--------------|-------------|--|---|
| 1   | 2                               | 3  | 4            | 5           | 6  | 7   |
|     |                                 |  |              |             |  |   |
|     |                                 |  |              |             | time characteristics   | (0 to 300 A);<br>(0 to 300 mm);<br>(0 to 30 min);<br>Compliant /<br>noncompliant                  |
| 145 | GOST R 55190 § 6.12             |  |              |             | Mechanicaltests (electromechanical<br>tests), including during safety checking:<br>- checking of operating mechanismes of<br>cubicle and withdrawable element<br>- checking of switching equipment of<br>main circuit<br>- test of blockings | Compliant /<br>noncompliant<br>Compliant /<br>noncompliant<br>Compliant /<br>noncompliant         |
| 146 | GOST R 55190 § 6.17,<br>Annex A |  |              |             | Tests for exposure of electric arc<br>(localization capability):<br>- highest service voltage<br>- short-circuit current<br>- peak value of short-circuit current<br>- control of time characteristics                                       | Compliant /<br>noncompliant<br>(0 to 40,5 kV)<br>(0 to 63 kA)<br>(0 to 170 kA)<br>(0 to 30 min)   |
| 147 | IEC 62271–200 § 7.4             | AC current metal-enclosed<br>switchgears for rated voltage<br>1 to 52 kV | 27.12.10.190 | 8537 200000 | Measurement of electrical resistance   | (0 to 1000 Ω)<br>Compliant /<br>noncompliant  |
| 148 | IEC 62271–200 § 7.5             |  |              |             | Temperature rise tests with rated current:<br>- current<br>- temperature rise<br>- resistance  | Passed/ failed<br>10 to 20 000 A<br>1 to 300 <sup>0</sup> C<br>1 μΩ to 2000 Ω                     |
| 149 | IEC 62271–200 § 7.6             |  |              |             | Short-time withstand tests:<br>- electrodynamic withstand current<br>- thermal withstand current<br>- control of mechanical and time charac-<br>teristics  | Passed /failed<br>0,1 to 320 kA<br>0,1 to 120 kA<br>(0 to 30 min);<br>Compliant /<br>noncompliant |
| 150 | IEC 62271–200 § 7.101           |  |              |             | Tests for switching capability:  | Compliant /<br>noncompliant   |

|     |                                   |   |              |             |  | On 61 pages, page 29   |
|-----|-----------------------------------|---|--------------|-------------|--|--|
| 1   | 2                                 | 3   | 4            | 5           | 6  | 7  |
|     |                                   |   |              |             |  |  |
|     |                                   |   |              |             | <ul> <li>amplitude voltage</li> <li>RMS voltage</li> <li>short-circuit current</li> <li>peak value of short-circuit current</li> <li>control of mechanical, electrical and time characteristics</li> </ul>   | (0 to 80 kV)<br>(0 to 40,5 kV)<br>(0 to 63 kA)<br>(0 to 170 kA)<br>(0 to 600 V);<br>(0 to 300 A);<br>(0 to 300 mm);<br>(0 to 30 min);<br>Compliant /<br>noncompliant |
| 151 | IEC 62271–200 § 7.102             |   |              |             | Mechanicaltests<br>(electromechanicaltests):<br>- checking of operating of cubicle<br>mechanismes and withdrawable element<br>- checking of switching of main circuit<br>equipment<br>- test of blockings  | Compliant /<br>noncompliant<br>Compliant /<br>noncompliant<br>Compliant /<br>noncompliant  |
| 152 | IEC 62271–200 § 7.106,<br>Annex A |   |              |             | Tests for exposure of electric arc<br>(localizationcapability):<br>- highest service voltage<br>(0 to 40,5 kV)<br>- short-circuit current<br>(0 to 63 kA)<br>- peak value of short-circuit current<br>(0 to 170 kA)<br>- control of time characteristics | Compliant /<br>noncompliant<br>(0 to 40,5 kV)<br>(0 to 63 kA)<br>(0 to 170 kA)<br>(0 to 30 min)  |
| 153 | IEC 62271–201 § 6.4               | AC current switchgears with<br>solid insulation for rated<br>voltage 1 to 52 kV | 27.12.10.190 | 8537 200000 | Measurement of electrical resistance   | (0 to 1000 Ω)<br>Compliant /<br>noncompliant   |
| 154 | IEC 62271–201§ 6.5                |   |              |             | Temperature rise tests with rated current:<br>- current<br>- temperature rise<br>- resistance  | Passed/ failed<br>10 to 20 000 A<br>1 to 300 <sup>0</sup> C<br>1 μΩ to 2000 Ω  |
| 155 | IEC 62271–201 § 6.6               |   |              |             | Short-time withstand tests:<br>- electrodynamic withstand current<br>- thermal withstand current   | Passed / failed<br>0,1 to 320 kA<br>0,1 to 120 kA  |

| 1    | 2  | 3                                | 4            | 5           | 6  | 7  |
|------|--|----------------------------------|--------------|-------------|--|--|
|      |  |                                  |              |             |  |  |
|      |  |                                  |              |             | - control of mechanical and time charac- | (0 to 30 min);                                 |
|      |  |                                  |              |             | teristics                                | Compliant /                                    |
|      |  |                                  |              |             |  | noncompliant                                   |
| 156  | IEC 62271–201 § 6.101                            |                                  |              |             | Tests for switching capability:          | Compliant /                                    |
|      |  |                                  |              |             |  | noncompliant                                   |
|      |  |                                  |              |             | - amplitude voltage                      | (0 to 80 kV)                                   |
|      |  |                                  |              |             | - RMS voltage                            | (0 to 40,5 kV)                                 |
|      |  |                                  |              |             | - short-circuit current                  | (0 to 63 kA)                                   |
|      |  |                                  |              |             | - peak value of short-circuit current    | (0 to 170 kA)                                  |
|      |  |                                  |              |             | - control of mechanical, electrical and  | (0 to 600 V);                                  |
|      |  |                                  |              |             | time characteristics                     | (0 to 300 A);                                  |
|      |  |                                  |              |             |  | (0 to 300 mm);                                 |
|      |  |                                  |              |             |  | (0 to 30 min);                                 |
|      |  |                                  |              |             |  | Compliant /                                    |
|      |  |                                  |              |             |  | noncompliant                                   |
|      |  | _                                |              |             |  |  |
| 157  | IEC 62271–201 § 6.102                            |                                  |              |             | Mechanicaltests                          |  |
|      |  |                                  |              |             | (electromechanicaltests):                |  |
|      |  |                                  |              |             | - checking of operating mechanismes      | Compliant /                                    |
|      |  |                                  |              |             | cubicle and withdrawable element         | noncompliant                                   |
|      |  |                                  |              |             | - checking of switching of main circuit  | Compliant /                                    |
|      |  |                                  |              |             | equipment                                | noncompliant                                   |
|      |  |                                  |              |             | - test of blockings                      | Compliant /                                    |
| 1.70 | HEC (2071, 201, 6 ¢ 105                          | -                                |              |             |  | noncompliant                                   |
| 158  | $1EC 622/1-201 \S 6.105,$                        |                                  |              |             | Tests for exposure of electric arc       | Compliant /                                    |
|      | Alliex AA  |                                  |              |             | (localizationcapability):                | noncompliant                                   |
|      |  |                                  |              |             | - highest service voltage                | (0  to  40,5  kV)                              |
|      |  |                                  |              |             | - short-circuit current                  | (0  to  63  kA)                                |
|      |  |                                  |              |             | - peak value of short-circuit current    | (0  to  1/0  kA)                               |
| 150  | COST D 54929 85 1 5 2 5 0                        |                                  | 27.12.10.100 | 0527 200000 | - control of time characteristics        | (0 to 30 min)                                  |
| 159  | GUST K 54828 §5.1-5.3, 5.9-<br>5 11 5 12 1 6 1 2 | Metal-enclosed switchgears       | 27.12.10.190 | 8537 200000 | Checking for compliance of construction  |  |
|      | 5.11, 5.12.1, 0.1.2                              | with $SF_6$ insulation (GIS) for |              |             | and assembling drawing, including for    |  |
|      |  | rated voltages 110 kV and        |              |             | 1 ests for safety requirements:          | Compliant /                                    |
|      |  | nigner                           |              |             | - presence of grounding                  | Compliant /                                    |
|      |  |                                  |              |             | accompatizated dimensional mounting and  | noncompliant $(0 \text{ to } 5000 \text{ mm})$ |
|      |  |                                  |              |             | - geometrical dimensions, mounting and   | (0  to  5000  mm)                              |
|      |  |                                  |              |             | connecting                               | Compliant /                                    |
|      |  |                                  |              |             | f filling of general sta                 |  |
| 1    |  |                                  |              | 1           | - correctness of filling of nameplate    | Compliant /                                    |

| 1   | 2                    | 3 | 4 | 5 | 6  | 7                                |
|-----|----------------------|---|---|---|--|----------------------------------|
|     |                      |   |   |   |  |                                  |
|     |                      |   |   |   | иcorrectness of marking                    | noncompliant                     |
|     |                      |   |   |   | - external view                            | Compliant /                      |
|     |                      |   |   |   |  | noncompliant                     |
|     |                      |   |   |   | - mass                                     | (0 to 10000 kg)                  |
|     |                      |   |   |   |  | Compliant /                      |
|     |                      |   |   |   |  | noncompliant                     |
| 160 | GOST R 54828 §6.4    |   |   |   | Measurement of electrical resistance       | (0 to 1000 Ω)                    |
|     |                      |   |   |   |  | Compliant /                      |
|     |                      |   |   |   |  | noncompliant                     |
|     |                      |   |   |   |  |                                  |
| 161 | GOST R 54828 §6.5    |   |   |   | Temperature rise tests with rated current: | Passed/ failed                   |
|     |                      |   |   |   | - current                                  | 10 to 20 000 A                   |
|     |                      |   |   |   | - temperature rise                         | 1 to 300 <sup>o</sup> C          |
|     |                      |   |   |   | - resistance                               | $1 \ \mu\Omega$ to 2000 $\Omega$ |
|     |                      |   |   |   | - own times                                | 1 to 100 ms                      |
|     |                      |   |   |   |  |                                  |
| 162 | GOST R 54828 §6.6    |   |   |   | Short-time withstand tests:                | Passed /failed                   |
|     |                      |   |   |   | - electrodynamic withstand current         | 0,1 to 320 kA                    |
|     |                      |   |   |   | - thermal withstand current                | 0,1 to 120 kA                    |
|     |                      |   |   |   | - control of time characteristics          | 0 to 30 min                      |
|     |                      |   |   |   |  |                                  |
| 163 | GOST R 54828 §6.12   |   |   |   | Tests for switching capability:            | Compliant /                      |
|     |                      |   |   |   |  | noncompliant                     |
|     |                      |   |   |   | - amplitude voltage                        | (0 to 308 kV)                    |
|     |                      |   |   |   | - RMS voltage                              | (0 to 220 kV)                    |
|     |                      |   |   |   | - RMS value of short-circuit current       | (0 to 63 kA)                     |
|     |                      |   |   |   | - peak value of short-circuit current      | (0 to 170 kA)                    |
|     |                      |   |   |   | - control of mechanical, electrical and    | (0 to 600 V);                    |
|     |                      |   |   |   | time characteristics                       | (0 to 300 A);                    |
|     |                      |   |   |   |  | (0 to 300 mm);                   |
|     |                      |   |   |   |  | (0 to 30 min);                   |
|     |                      |   |   |   |  | Compliant /                      |
|     |                      |   |   |   |  | noncompliant                     |
| 164 | GOST R 54828 §6.13.1 |   |   |   | Mechanicaltests                            |                                  |
|     |                      |   |   |   | (electromechanicaltests), including dur-   |                                  |
|     |                      |   |   |   | ing safety checking:                       | Compliant /                      |
|     |                      |   |   |   | - checking of operating mechanismes        | noncompliant                     |
|     |                      |   |   |   | cubicle and withdrawable element           | Compliant /                      |
|     |                      |   |   |   | - checking of switching of main circuit    | noncompliant                     |

| 1    | 2                          | 3                            | 4            | 5           | 6  | 7   |
|------|----------------------------|------------------------------|--------------|-------------|--|---|
|      | 1                          |                              |              |             |  |   |
|      |                            |                              |              |             | equipment                                  | Compliant /   |
|      |                            |                              |              |             | - test of blockings                        | noncompliant  |
|      |                            | -                            |              |             |  | ~   |
| 165  | GOST R 54828 §6.16, AnnexG |                              |              |             | Tests for exposure of electric arc         | Compliant /   |
|      |                            |                              |              |             | (localizationcapability):                  | noncompliant  |
|      |                            |                              |              |             | - highest service voltage                  | (0  to  40,5  kV)   |
|      |                            |                              |              |             | - short-circuit current                    | (0  to  50  kA)   |
|      |                            |                              |              |             | - peak value of short-circuit current      | (0  to  135  kA)  |
|      |                            |                              |              |             | - control of time characteristics          | (0  to  30  min)  |
| 166  | IEC 62271-203 87 4         | Matal analogod switchgoors   | 27 12 10 100 | 8527 200000 | Manurament of alastrical resistance        | (0  to  1000  O)  |
| 100  | HEC 02271-205 §7.4         | with SE insulation (GIS) for | 27.12.10.190 | 8337 200000 | Measurement of electrical resistance       | $\begin{array}{c} (0 \ 10 \ 1000 \ 22) \\ \text{Compliant} \ / \end{array}$ |
|      |                            | rated voltagesabove 52 kV    |              |             |  | noncompliant  |
| 167  | IEC 62271–203 87 5         | Tated voltagesabove 52 kv    |              |             | Temperature rise tests with rated current: | Passed/ failed  |
| 107  | 110 02271 205 §7.5         |                              |              |             | - current                                  | 10 to 20 000 A  |
|      |                            |                              |              |             | - temperature rise                         | $1 \text{ to } 300 ^{\circ}\text{C}$  |
|      |                            |                              |              |             | - resistance                               | $1 \pm 0.000  \Omega$   |
| 168  | IEC 62271–203 §7.6         |                              |              |             | Short-time withstand tests:                | Passed / failed   |
|      | 0                          |                              |              |             | - electrodynamic withstand current         | 0.1 to 320 kA   |
|      |                            |                              |              |             | - thermal withstand current                | 0.1 to 120 kA   |
|      |                            |                              |              |             | - control of time characteristics          | 0 to 30 min   |
| 169  | IEC 62271-203 §7.101       |                              |              |             | Tests for switching capability:            | Compliant /   |
|      |                            |                              |              |             |  | noncompliant  |
|      |                            |                              |              |             | - amplitude voltage                        | (0  to  308  kV)  |
|      |                            |                              |              |             | - RMS voltage                              | (0 to 220 kV)   |
|      |                            |                              |              |             | - RMS value of short-circuit current       | (0 to 63 kA)  |
|      |                            |                              |              |             | - peak value of short-circuit current      | (0 to 170 kA)   |
|      |                            |                              |              |             | - control of mechanical, electrical and    | (0 to 600 V);   |
|      |                            |                              |              |             | time characteristics                       | (0 to 300 A);   |
|      |                            |                              |              |             |  | (0 to 300 mm);  |
|      |                            |                              |              |             |  | (0 to 30 min);  |
|      |                            |                              |              |             |  | Compliant /   |
| 1.70 | WEG (2251, 202, 05, 102, 2 | 4                            |              |             |  | noncompliant  |
| 170  | IEC 622/1–203 §7.102.2     |                              |              |             | Mechanicaltests                            |   |
|      |                            |                              |              |             | (electromechanicaltests):                  |   |
|      |                            |                              |              |             | - checking of operating mechanismes        | Compliant /   |
|      |                            |                              |              |             | cubicle and withdrawable element           | noncompliant  |
|      |                            |                              |              |             | - cnecking of switching of main circuit    | Compliant /   |
| 1    |                            |                              |              |             | equipment                                  | noncompliant  |

| 1   | 2                                     | 3                            | 4            | 5           | 6  | 7                       |
|-----|---------------------------------------|------------------------------|--------------|-------------|--|-------------------------|
|     |                                       |                              |              |             |  |                         |
|     |                                       |                              |              |             | - test of blockings                        | Compliant /             |
|     |                                       |                              |              |             | _  | noncompliant            |
| 171 | IEC 62271–203 §7.105,                 |                              |              |             | Tests for exposure of electric arc         | Compliant /             |
|     | Annex B                               |                              |              |             | (localizationcapability):                  | noncompliant            |
|     |                                       |                              |              |             | - highest service voltage                  | (0  to  40.5  kV)       |
|     |                                       |                              |              |             | - short-circuit current                    | (0  to  50  kA)         |
|     |                                       |                              |              |             | - peak value of short-circuit current      | (0  to  135  kA)        |
|     |                                       |                              |              |             | - control of time characteristics          | (0 to 30 min)           |
|     |                                       |                              |              |             |  |                         |
| 172 | IEC 62271–205 §6.4                    | Compact switchgears for      | 27.12.10.190 | 8537 200000 | Measurement of electrical                  | (0 to 1000 Ω)           |
|     | , , , , , , , , , , , , , , , , , , , | calculatedvoltage above 52   |              |             | resistance                                 | Compliant /             |
|     |                                       | kV                           |              |             |  | noncompliant            |
|     |                                       |                              |              |             |  |                         |
| 173 | IEC 62271–205 §6.5                    |                              |              |             | Temperature rise tests with rated current: | Passed/ failed          |
|     |                                       |                              |              |             | - current                                  | 10 to 20 000 A          |
|     |                                       |                              |              |             | - temperature rise                         | 1 to 300 <sup>0</sup> C |
|     |                                       |                              |              |             | - resistance                               | 1 μΩ to 2000 Ω          |
|     |                                       |                              |              |             |  |                         |
| 174 | IEC 62271–205 §6.6                    |                              |              |             | Short-time withstand tests:                | Passed /failed          |
|     |                                       |                              |              |             | - electrodynamic withstand current         | 0,1 to 320 kA           |
|     |                                       |                              |              |             | - thermal withstand current                | 0,1 to 120 kA           |
|     |                                       |                              |              |             | - control of time characteristics          | 0 to 30 min             |
|     |                                       |                              |              |             |  |                         |
| 175 | IEC 62271–205 §6.101.1-6.101.2        |                              |              |             | Mechanicaltests                            |                         |
|     |                                       |                              |              |             | (electromechanicaltests):                  |                         |
|     |                                       |                              |              |             | - checking of operating mechanismes        | Compliant /             |
|     |                                       |                              |              |             | cubicle and withdrawable element           | noncompliant            |
|     |                                       |                              |              |             | - checking of switching of main circuit    | Compliant /             |
|     |                                       |                              |              |             | equipment                                  | noncompliant            |
|     |                                       |                              |              |             | - test of blockings                        | Compliant /             |
|     |                                       |                              |              |             |  | noncompliant            |
| 176 | GOST 2213 §7.1                        | AC current fuses for voltage | 27.12.10.140 | 8535 100000 | Tests for compliance to requirements to    |                         |
|     |                                       | 3 kV and higher              |              |             | of construction and                        |                         |
|     |                                       |                              |              |             | requirements assembling drawing, com-      |                         |
|     |                                       |                              |              |             | pleteness, including during safety check-  |                         |
|     |                                       |                              |              |             | ing:                                       | (0 to 5000 mm)          |
|     |                                       |                              |              |             | - geometrical, mounting and connecting     | Compliant /             |
|     |                                       |                              |              |             | dimensions                                 | noncompliant            |
| 1   |                                       |                              |              |             |  | (0 to 10000 kg)         |

| 1   | 2                      | 3 | 4 | 5 | 6   | 7                              |
|-----|------------------------|---|---|---|---|--------------------------------|
|     |                        |   |   |   |   |                                |
|     |                        |   |   |   | - mass                                      | Compliant /                    |
|     |                        |   |   |   |   | noncompliant                   |
|     |                        |   |   |   |   | Compliant /                    |
|     |                        |   |   |   | - condition of protective surfaces          | noncompliant                   |
|     |                        |   |   |   |   | Compliant /                    |
|     |                        |   |   |   | - condition of surface of external insulat- | noncompliant                   |
|     |                        |   |   |   | ing parts                                   | Compliant /                    |
|     |                        |   |   |   | - correctness of filling of nameplate       | noncompliant                   |
|     |                        |   |   |   |   | Compliant /                    |
|     |                        |   |   |   | - correctness of marking and branding       | noncompliant                   |
|     |                        |   |   |   | - presence of trigger indicator and (or)    | Compliant /                    |
|     |                        |   |   |   | striking devices and (or) devices for re-   | noncompliant                   |
|     |                        |   |   |   | mote signalling, blocking and control       |                                |
| 177 | GOST 2213 §7.5         |   |   |   | Temperature rise tests with rated current:  | Passed/                        |
|     |                        |   |   |   |   | failed                         |
|     |                        |   |   |   | - current                                   | 10 to 20 000 A                 |
|     |                        |   |   |   | - temperature rise                          | 1 to 300 °C                    |
|     |                        |   |   |   | - resistance                                | 1 $\mu\Omega$ to 2000 $\Omega$ |
|     |                        |   |   |   | - time                                      | 1 ms to 30 min                 |
|     |                        |   |   |   |   |                                |
| 178 | GOST 2213 §7.6-1-7.6.4 |   |   |   | Tests for mechanical capability and for     |                                |
|     |                        |   |   |   | mechanical wearing tests, including dur-    |                                |
|     |                        |   |   |   | ing safety checking:                        |                                |
|     |                        |   |   |   | - control of mechanicalcharacteristics,     | (0 to 300 mm);                 |
|     |                        |   |   |   | correct operation of device mechanisms      | (0 to 30 min);                 |
|     |                        |   |   |   | and blockings                               | Compliant /                    |
|     |                        |   |   |   |   | noncompliant                   |
|     |                        |   |   |   | - checking of forces                        | (0 to 10000 N)                 |
|     |                        |   |   |   |   | Compliant /                    |
|     |                        |   |   |   |   | noncompliant                   |
| 179 | GOST 2213 §7.7         |   |   |   | Short-time withstand tests:                 | Passed / failed                |
|     |                        |   |   |   | - electrodynamic withstand current          | 0,1 to 320 kA                  |
|     |                        |   |   |   | - thermal withstand current                 | 0,1 to 120 kA                  |
|     |                        |   |   |   | - time                                      | 1 ms to 30 min                 |
| 180 | GOST 2213 87 8-7.11    |   |   |   | Tests for switching capability:             | Compliant /                    |
| 100 |                        |   |   |   |   | compnunt /                     |

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|-----|----------------------|-----------------------------|--------------|-------------|---|----------------------------------|
| r   |                      |                             |              |             | 1   |                                  |
|     |                      |                             |              |             |   | noncompliant                     |
|     |                      |                             |              |             | - amplitude voltage                         | (0 to 80 kV)                     |
|     |                      |                             |              |             | - RMS voltage                               | (0 to 40,5 kV)                   |
|     |                      |                             |              |             | - short-circuit current                     | (0 to 63 kA)                     |
|     |                      |                             |              |             | - peak value of short-circuit current       | (0 to 170 kA)                    |
|     |                      |                             |              |             | - control of time characteristics           | (0 to 30 min)                    |
| 181 | IEC 62271–105 §7.4   | Switch-fuse combination for | 27.12.10     | 8535        | Checking of electrical resistance           | (0 to 1000 Ω)                    |
|     |                      | AC current                  |              |             |   | Compliant /                      |
|     |                      |                             |              |             |   | noncompliant                     |
| 182 | IEC 62271–105 §7.5   |                             |              |             | Temperature rise tests with rated current:  | Passed/ failed                   |
|     |                      |                             |              |             | - current                                   | 10 to 20 000 A                   |
|     |                      |                             |              |             | - temperature rise                          | 1 to $300 {}^{0}\text{C}$        |
|     |                      |                             |              |             | - resistance                                | $1 \ \mu\Omega$ to 2000 $\Omega$ |
|     |                      |                             |              |             | - time                                      | 1 ms to 30 min                   |
| 183 | IEC 62271–105 §7.6   |                             |              |             | Short-time withstand tests:                 | Passed / failed                  |
|     |                      |                             |              |             | - electrodynamic withstand current          | 0,1 to 320 kA                    |
|     |                      |                             |              |             | - thermal withstand current                 | 0,1 to 120 kA                    |
|     |                      |                             |              |             | - times                                     | 1 ms to 30 min                   |
| 184 | IEC 62271–105 §7.101 |                             |              |             | Tests for switching capability:             | Compliant /                      |
|     |                      |                             |              |             |   | noncompliant                     |
|     |                      |                             |              |             | - amplitude voltage                         | (0 to 80 kV)                     |
|     |                      |                             |              |             | - RMS voltage                               | (0 to 40,5 kV)                   |
|     |                      |                             |              |             | - short-circuit current                     | (0 to 63 kA)                     |
|     |                      |                             |              |             | - peak value of short-circuit current       | (0 to 170 kA)                    |
|     |                      |                             |              |             | - control of time characteristics           | (0 to 30 min)                    |
| 185 | IEC 60282-1 §7.5     | High voltage fuses.         | 27.12.10.140 | 8535 100000 | Temperature rise tests with rated current:  | Passed/ failed                   |
|     |                      | Current-limiting fuses      |              |             | - current                                   | 10 to 20 000 A                   |
|     |                      |                             |              |             | - temperature rise                          | 1 to 300 °C                      |
|     |                      |                             |              |             | - resistance                                | $1 \ \mu\Omega$ to 2000 $\Omega$ |
|     |                      |                             |              |             | - time                                      | 1 ms to 30 min                   |
| 186 | IEC 60282-1 §7.6-7.7 |                             |              |             | Tests for switching capability:             | Compliant/noncompliant           |
|     |                      |                             |              |             | - amplitude voltage                         | (0 to 80 kV)                     |
|     |                      |                             |              |             | - RMS voltage                               | (0 to 40,5 kV)                   |
|     |                      |                             |              |             | - short-circuit current                     | (0 to 63 kA)                     |
|     |                      |                             |              |             | - peak value of short-circuit current       | (0 to 170 kA)                    |
|     |                      |                             |              |             | - control of time characteristics           | (0 to 30 min)                    |
| 187 | IEC 60282-1 § 8.3    |                             |              |             | Control of mechanical characteristics,      | (0 to 300 mm);                   |
|     |                      |                             |              |             | trigger indicator and (or) striking devices | (0 to 30 min);                   |
|     |                      |                             |              |             | and (or) devices for remote signalling      | Compliant /                      |

|     |                       |                                       |              |             |   | Noncompliant   |
|-----|-----------------------|---------------------------------------|--------------|-------------|---|--|
| 188 | IEC 60282-2 § 8.5     | High voltage fuses.<br>Striking fuses | 27.12.10.140 | 8535 100000 | Temperature rise tests with rated current:<br>- current<br>- temperature rise<br>- resistance<br>- time   | Passed/ failed<br>10 to 20 000 A<br>1 to 300 <sup>0</sup> C<br>1 μΩ to 2000 Ω<br>1 msto 30 min                   |
| 189 | IEC 60282-2 § 8.6-8.7 |                                       |              |             | Tests for switching capability:<br>- amplitude voltage<br>(0 to 80 kV)<br>- RMS voltage<br>(0 to 40,5 kV)<br>- short-circuit current<br>(0 to 63 kA)<br>- peak value of short-circuit current<br>(0 to 170 kA)<br>- control of time characteristics   | Compliant /<br>noncompliant<br>(0 to 80 kV)<br>(0 to 40,5 kV)<br>(0 to 63 kA)<br>(0 to 170 kA)<br>(0 to 30 min)  |
| 190 | IEC 60282-2 § 8.8.2   |                                       |              |             | Tests for mechanical capability and for<br>mechanical wearing tests:<br>- control of mechanicalcharacteristics,<br>correct operation of device mechanisms<br>and blockings<br>- checking of forces  | (0 to 300 mm);<br>(0 to 30 min);<br>Compliant /<br>noncompliant<br>(0 to 10000 N)<br>Compliant /<br>Noncompliant |
| 191 | GOST 20493 § 8.1, 8.2 | Voltage Indicators                    | 27.12.10.190 | 8535 90     | Visual control, checking of complete-<br>ness, of marking. Checking for compli-<br>ance to working drawings.<br>- checking of serviceability<br>- checking of completeness<br>- checking of package<br>- checking of marking<br>- checking of traces of corrosion<br>- condition of insulating surfaces | Compliant/<br>noncompliant   |

| 1   | 2                                     | 3  | 4            | 5       | 6  | 7                                 |
|-----|---------------------------------------|--|--------------|---------|--|-----------------------------------|
|     |                                       |  |              |         | - checking of documentation  |                                   |
| 192 | GOST 20493 § 8.9.2, 8.9.3,<br>8.10.4, |  |              |         | Checking of valueof indication voltage.<br>Checking ofvoltage indicator for<br>absenceof indication frominfluence<br>of adjacent circuits with same voltage  | Compliant/<br>noncompliant        |
| 193 | GOST 20493 § 8.9.4, 8.9.2             |  |              |         | Checking of valueof current, flowing<br>through voltage indicatorduring<br>highestvalue ofservicevoltage.<br>Checking of serviceabilityof scheme   | Compliant/<br>noncompliant        |
| 194 | GOST 20493 § 8.10.8, 8.7              |  |              |         | Tests for bending. Mechanicaltests.  | Passed / failed<br>0 to 10%       |
| 195 | GOST 20494 §§8.1-8.2                  | Insulating operating rods and<br>portable grounding rods | 27.12.10.190 | 8535 90 | Visual control, checking of complete-<br>ness, of marking. Checking for compli-<br>ance to working drawings.<br>- checking of serviceability<br>- checking of completeness<br>- checking of package<br>- checking of marking<br>- checking of traces of corrosion<br>- condition of insulating surfaces<br>- checking of documentation | Compliant/<br>noncompliant        |
| 196 | GOST 20494 § 8.5.2                    |  |              |         | Tests for bending. Mechanicaltests.  | Passed / failed<br>0 to 10%       |
| 197 | GOST R 51853 §9.1                     | Portable grounding for elec-<br>trical installations     | 27.12.10.190 | 8535 90 | Visual control, checking of complete-<br>ness, of marking. Checking for compli-<br>ance to working drawings.<br>- checking of serviceability<br>- checking of completeness<br>- checking of package<br>- checking of marking<br>- checking of traces of corrosion<br>- condition of insulating surfaces<br>- checking of documentation | Compliant/<br>noncompliant        |
| 198 | GOST R 51853 §§9.4, 9.6               |  |              |         | Checking of conductor section.   | Passed / failed                   |
| 199 | GOST R 51853 §9.5                     | ]  |              |         | Short-time withstand tests:<br>- electrodynamic withstand current  | Passed / failed<br>0.1 to 320 kA: |

|     |                             |                                |              |              |  | On 61 pages, page 38                 |
|-----|-----------------------------|--------------------------------|--------------|--------------|--|--------------------------------------|
| 1   | 2                           | 3                              | 4            | 5            | 6  | 7                                    |
|     |                             |                                |              |              |  |                                      |
|     |                             |                                |              |              | - thermal withstand current                | 0,1 to 120 kA;                       |
|     |                             |                                |              |              | - measurement of resistance                | 1 $\mu\Omega$ to 2000 $\Omega$       |
| 200 | GOST R 51853 89 3           |                                |              |              | Tests for bending                          | Passed / failed                      |
| -00 | 000110000 37.0              |                                |              |              |  | 0 to 20%                             |
| 201 | GOST 8008 sections 7: 8     | Devices for voltage control    | 27 12 10 190 | 8504 900000  | Temperature rise tests with rated current: | Passed/ failed                       |
| 201 |                             | under load of power trans-     | 27.12.10.190 | 0501900000   | - current                                  | 10 to 20 000 A                       |
|     |                             | formers                        |              |              | - temperature rise                         | $1 \text{ to } 300 ^{\circ}\text{C}$ |
|     |                             | Tormers                        |              |              | - resistance                               | $1 \pm 0.500 \text{ C}$              |
| 202 | COST P 55194 8 7 5          | AC current Electrical          | 27 12 1      | 8504         | Tests of electrical strength of            | Passed / failed                      |
| 202 | 0051 K 55194 § 7.5          | aquinment and Electrical       | 27.12.1      | 8535         | insulation AC voltage of control circuits  | Tassed / Taneed                      |
|     |                             | installations for voltage 1 to | 27.12.2      | 8536         | auxiliary circuits                         |                                      |
|     |                             | 750 kV                         | 27.12.3      | 8530         | (0  to  5  kV)                             |                                      |
|     |                             | 750 KV                         | 27.12.4      | 8544         | (0 10 3  KV)                               |                                      |
|     |                             |                                |              | 8546         |  |                                      |
| 203 | STO 56047007 20 060 10 117  | Digid bus system (High         | 27 12 10 100 | 8535.00.0000 | Tomporature rise tests with rated current: | Passod/foiled                        |
| 203 | 2012 86                     | voltago busducts)              | 27.12.10.190 | 8555 90 0000 | eurront                                    | $10 \text{ to } 20\ 000\ \text{A}$   |
|     | 2012 90                     | voltage busducts)              |              |              | - current<br>tomporatura risa              | 101020000A                           |
|     |                             |                                |              |              | - temperature fise                         | 1 + 0.500 + 0.000                    |
| 204 | STO 56047007 20 060 10 117  | -                              |              |              | - Teststance                               | Deceed / failed                      |
| 204 | 310 30947007-29.000.10.117- |                                |              |              | Short-time withstand tests:                | Passed / Talled                      |
|     | 2012 §7,8                   |                                |              |              |  | $0.1 \pm 220 \pm 4$                  |
|     |                             |                                |              |              | - electrodynamic withstand current         | 0,1 to $320$ kA;                     |
|     |                             |                                |              |              | - therman withstand current                | $0,1 \ 10 \ 120 \ \text{KA};$        |
|     |                             |                                |              |              | - measurement of resistance                | 1 µ22 to 2000 \$2                    |
| 205 | IEC 60353 810 1             | High frequency                 | 27 12 10 100 | 8535 000000  | Tomporature rise tests with rated current: | Passod/foiled                        |
| 203 | IEC 00353 §19.1             | line trans                     | 27.12.10.190 | 8555 900000  | eurront                                    | $10 \text{ to } 20\ 000\ \text{A}$   |
|     |                             | line traps                     |              |              | - current                                  | 10 to 20 000  A                      |
|     |                             |                                |              |              | - temperature fise                         | 1 to 500 C                           |
| 206 | IEC 60252 \$ 10.4           | -                              |              |              | - Teststance                               | $1 \ \mu S2 \ to \ 2000 \ S2$        |
| 200 | IEC 00333 § 19.4            |                                |              |              | 0.1 to $12$ kV                             | 0,1 t0 40 kA                         |
|     |                             |                                |              |              | 0,1 to 12 KV                               | 0.2 to 0.3 IIIH                      |
|     |                             |                                |              |              |  | 0,1 to 2 s                           |
|     |                             |                                |              |              |  | compliant/                           |
| 207 | STO 0(5021(( 122 2018       | Detalar assistant assistant    | 27.12.10.100 | 0522         | Maaannan of naciotan as                    |                                      |
| 207 | 510 90502100-123-2018       | Betelen resistors, resistor    | 27.12.10.190 | 8333         | weasurement of resistance                  | compliant/                           |
| 200 | 570.0(5021(( 122.2010       | installations                  |              |              |  | noncompliant                         |
| 208 | 510 96502166-123-2018       |                                |              |              | Checking of rated maximum permissible      | Passed/ failed                       |
|     |                             |                                |              |              | voltages                                   |                                      |
|     |                             |                                |              |              | to 85 kV                                   |                                      |

| 1   | 2                               | 3  | 4        | 5      | 6  | 7  |
|-----|---------------------------------|--|----------|--------|--|--|
| 200 |                                 |  | 07.40.00 | 0.50 ( |  | D 1/0111   |
| 209 | GOST 9098 §§6.2.1-6.2.3         | Low voltage switches for<br>household and industrial | 27.12.22 | 8536   | Visual control:  | Passed / failed  |
|     |                                 | purpose  |          |        | - mass   | 1 to 1000 kg   |
|     |                                 |  |          |        |  | -  |
| 210 | GOST 9098 §6.2.5, 6.2.7, 6.7    |  |          |        | Control of forces of operating, joint (par-                            | Compliant/   |
|     |                                 |  |          |        | tition), marking. I rial montage and<br>checking of mutual replacement | noncompliant   |
| 211 | GOST 9098 §§6.3.2-6.3.5; 6.3.14 |  |          |        | Tests for mechanical wearing tests and                                 | Passed / failed  |
|     |                                 |  |          |        | switching capability:  |  |
|     |                                 |  |          |        | - current  | 0,1 to 120 kA  |
|     |                                 |  |          |        | - number of CO sequences   | 1 to 10 000  |
|     |                                 |  |          |        | - umes   | 1 ms to $60 \text{ min}$<br>1 $\mu\Omega$ to 2000 $\Omega$ |
|     |                                 |  |          |        |  | 1 µ22 to 2000 22   |
| 212 | GOST 9098 § 6.3.11; 6.3.13      |  |          |        | Control of return factor. Control of work-                             | Compliant/   |
|     |                                 |  |          |        | ing of interruptors and motor:   | noncompliant   |
|     |                                 |  |          |        | - current  | 10 to 20 000 A   |
|     |                                 |  |          |        | - temperature rise   | 1 to $300^{\circ}$ C                                       |
|     |                                 |  |          |        | - unles<br>- voltage   | 1  Ins to 00 Inin<br>1 to 400 V                            |
|     |                                 |  |          |        | vonage   |  |
| 213 | GOST 9098 § 6.3.7               |  |          |        | Temperature rise tests with rated current:                             | Passed / failed  |
|     |                                 |  |          |        | - current  | 10 to 20 000 A   |
|     |                                 |  |          |        | - temperature rise   | 1 to 300°C   |
| 214 | GOST 9098 § 6.3.9               |  |          |        | Insulation resistance.   | Passed / failed  |
|     |                                 |  |          |        |  | 1 κΩ to 70 GΩ  |
|     |                                 |  |          |        |  |  |
| 215 | GOST IEC 60947-2 §8.2           | Low voltage switches for                             | 27.12.22 | 8536   | Visual control:  | Passed / failed  |
|     |                                 | household and industrial                             |          |        | - geometrical dimensions   | 1  to  1000  mm  |
|     |                                 | purpose  |          |        | - mass   | 1 to 1000 kg   |
| 216 | GOST IEC 60947-2 §5.2, 5.3,     |  |          |        | Control of forces of operating, joint (par-                            | Compliant/   |
|     | 8.3.3.4                         |  |          |        | tition), marking. Trial montage and                                    | noncompliant   |
| 015 |                                 |  |          |        | checking of mutual replacement   | D 1/0111   |
| 217 | GOST IEC 60947-2 §8.3.4.2,      |  |          |        | Tests for mechanical wearing tests and                                 | Passed / failed  |
|     | 0.2.2.0                         |  |          |        | - current  | 0.1 to 120 kA  |
|     |                                 |  |          |        | - number of CO sequences   | 1 to 10 000  |

| 1   | 2  | 3   | 4        | 5    | 6  | 7   |
|-----|--|---|----------|------|--|---|
|     |  |   |          |      | - times<br>- resistance  | 1 msto 60 min<br>1 μΩ to 2000 Ω   |
| 218 | GOST IEC 60947-2 §8.3.3.2,<br>8.3.3.8, 8.3.4.6, 8.3.5.2, 8.3.5.5,<br>8.3.6.2, 8.3.6.7, 8.3.7.5, 8.3.7.9,<br>8.3.8.2, 8.3.8.8     |   |          |      | Control of return factor. Control of work-<br>ing of interruptors and motor:<br>- current<br>- temperature rise<br>- times<br>- voltage  | Compliant/<br>noncompliant<br>10 to 20 000 A<br>1 to 300 <sup>0</sup> C<br>1 ms to 60 min<br>1 to 400 V |
| 219 | GOST IEC 60947-2 § 8.3.2.5,<br>8.3.3.7, 8.3.4.4, 8.3.6.4, 8.3.7.3,<br>8.3.8.7  |   |          |      | Temperature rise tests with rated current:<br>- current<br>- temperature rise  | Passed / failed<br>10 to 20 000 A<br>1 to 300 <sup>0</sup> C  |
| 220 | GOST R 50030.2 §8.2  | Low voltage switches for<br>household and industrial<br>purpose | 27.12.22 | 8536 | Visual control:<br>- geometrical dimensions<br>- mass  | Passed / failed<br>1 to 1000 mm<br>1 to 1000 kg   |
| 221 | GOST R 50030.2 §8.3.3  |   |          |      | Control of forces of operating, joint (par-<br>tition), marking.Trial montage and<br>checking of mutual replacement                      | Compliant/<br>noncompliant  |
| 222 | GOST R 50030.2 §8.3.2.6.1,<br>8.3.2.6.2, 8.3.5.3, 8.3.4.1, 8.3.8.3   |   |          |      | Tests for mechanical wearing tests and<br>switching capability:<br>- current<br>- number of CO sequences<br>- times<br>- resistance      | Passed / failed<br>0,1 to 120 kA<br>1 to 10 000<br>1 ms to 60 min<br>1 μΩ to 2000 Ω                     |
| 223 | GOST R 50030.2§8.3.3.18.3.3.7,<br>8.3.4.5, 8.3.5.1, 8.3.5.4, 8.3.6.1,<br>8.3.6.6, 8.3.7.4, 8.3.7.4, 8.3.7.8,<br>8.3.8.1, 8.3.8.7 |   |          |      | Control of return factor.<br>Control of working of interruptors and<br>motor:<br>- current<br>- temperature rise<br>- times<br>- voltage | Compliant/<br>noncompliant<br>10 to 20 000 A<br>1 to 300 <sup>0</sup> C<br>1 ms to 60 min<br>1 to 400 B |
| 224 | GOST R 50030.2 §8.3.2.5,<br>8.3.3.6, 8.3.4.4, 8.3.6.3, 8.3.7.2,<br>8.3.8.6   |   |          |      | Temperature rise tests with rated current:<br>- current<br>- temperature rise  | Passed / failed<br>10 to 20 000 A<br>1 to 300 <sup>0</sup> C  |

| 1   | 2                                   | 3                        | 4        | 5    | 6   | 7                              |
|-----|-------------------------------------|--------------------------|----------|------|---|--------------------------------|
|     |                                     |                          |          |      |   |                                |
| 225 | GOST R 50030.2 §8.3.3.2             |                          |          |      | Insulation resistance.                      | Passed / failed                |
|     |                                     |                          |          |      |   | 1 κ $\Omega$ to 70 G $\Omega$  |
| 226 | GOST IEC 60947-6-2 § 9.2            | Low voltage switches for | 27.12.22 | 8536 | Visual control:                             | Passed / failed                |
|     |                                     | household and industrial |          |      | - geometrical dimensions                    | 1 to 1000 mm                   |
|     |                                     | purpose                  |          |      | - mass                                      | 1 to 1000 kg                   |
|     |                                     |                          |          |      |   |                                |
| 227 | GOST IEC 60947-6-2 § 8.1.7.4,       |                          |          |      | Control of forces of operating, joint (par- | Compliant/                     |
|     | Annex C                             |                          |          |      | tition), marking. Trial montage and         | noncompliant                   |
|     |                                     |                          |          |      | Checking of mutual replacement              |                                |
| 228 | GOST IEC 60947-6-2 § 8.2.4.3,       |                          |          |      | Tests for mechanical wearing tests and      | Passed / failed                |
|     | 9.4.3.1, Annex A                    |                          |          |      | switching capability:                       |                                |
|     |                                     |                          |          |      | - current                                   | 0,1 to 120 kA                  |
|     |                                     |                          |          |      | - number of sequencesBO                     | 1 to 10 000                    |
|     |                                     |                          |          |      | - times                                     | 1 ms to 60 min                 |
|     |                                     |                          |          |      | - resistance                                | 1 $\mu\Omega$ to 2000 $\Omega$ |
| 229 | GOST IEC 60947-6-2 § 9.4.1.2,       |                          |          |      | Control of return factor. Control of work-  | Compliant/                     |
|     | 9.4.1.3, 9.4.3.5, 9.4.4.1, 9.4.4.6  |                          |          |      | ing of interruptors and motor:              | noncompliant                   |
|     |                                     |                          |          |      | - current                                   | 10 to 20 000 A                 |
|     |                                     |                          |          |      | - temperature rise                          | 1 to $300^{\circ}$ C           |
|     |                                     |                          |          |      | - times                                     | 1 ms to 60 min                 |
|     |                                     |                          |          |      | - voltage                                   | 1 to 400 V                     |
| 230 | GOST IEC 60947-6-2 § 9.3.3.3,       |                          |          |      | Temperature rise tests with rated current:  | Passed / failed                |
|     | 9.4.1.1, 9.4.4.5                    |                          |          |      | - current                                   | 10 to 20 000 A                 |
|     |                                     |                          |          |      | - temperature rise                          | 1 to 300°C                     |
| 231 | GOST IEC 60947-6-2 § 9.4.1.4,       |                          |          |      | Insulation resistance.                      | Passed / failed                |
|     | 9.4.2.3, 9.4.3.4, 9.4.4.4, 9.4.5.3, |                          |          |      |   | 1 κΩ to 70 GΩ                  |
|     | 9.4.6.3, 9.4.7.3                    |                          |          |      |   |                                |
| 232 | GOST IEC 60947-6-1 § 9.2            | Low voltage switches for | 27.12.22 | 8536 | Visual control:                             | Passed / failed                |
|     |                                     | household and industrial |          |      | - geometrical dimensions                    | 1 to 1000 mm                   |
|     |                                     | purpose                  |          |      | - mass                                      | 1 to 1000 kg                   |
|     |                                     | -                        |          |      |   |                                |
| 233 | GOST IEC 60947-6-1 § 8.1.2          |                          |          |      | Control of forces of operating, joint (par- | Compliant/                     |
|     |                                     |                          |          |      | tition), marking. Trial montage and         | noncompliant                   |
|     |                                     | -                        |          |      | Checking of mutual replacement              | D 1/2/11                       |
| 234 | GOST IEC 60947-6-1 § 9.3.3.5,       |                          |          |      | Tests for mechanical wearing tests and      | Passed / failed                |
|     | 9.3.3.6.2                           |                          |          |      | switching capability:                       | 0.1 / 120.1 /                  |
|     |                                     |                          |          |      | - current                                   | 0,1 to 120 kA                  |
|     |                                     |                          |          |      | - number of CO sequences                    | 1 to 10 000                    |
| 1   |                                     |                          | 1        |      | - times                                     | 1 ms to 60 min                 |

| 1   | 2                              | 3                                     | 4        | 5    | 6  | 7                                    |
|-----|--------------------------------|---------------------------------------|----------|------|--|--------------------------------------|
|     |                                |                                       |          |      |  |                                      |
|     |                                |                                       |          |      | - resistance                               | 1 μΩ to 2000 Ω                       |
|     |                                |                                       |          |      |  | ·                                    |
| 235 | GOST IEC 60947-6-1 § 9.3.3.1.  |                                       |          |      | Control of return factor. Control of work- | Compliant/                           |
|     | 9332                           |                                       |          |      | ing of interruptors and motor.             | noncompliant                         |
|     | 2.5.5.2                        |                                       |          |      | - current                                  | 10 to 20 000 A                       |
|     |                                |                                       |          |      | - temperature rise                         | $1 \text{ to } 300^{\circ}\text{C}$  |
|     |                                |                                       |          |      | - times                                    | 1  ms to  60  min                    |
|     |                                |                                       |          |      | - voltage                                  | 1  to  400  V                        |
| 236 | GOST IEC 60947-6-1 8 8 3 3     |                                       |          |      | Temperature rise tests with rated current: | Passed / failed                      |
| 250 | GOST ILC 00947 0 1 § 0.5.5     |                                       |          |      | - current                                  | $10 \text{ to } 20\ 000 \text{ A}$   |
|     |                                |                                       |          |      | temperature rise                           | $1 \text{ to } 300^{\circ} \text{C}$ |
|     |                                |                                       |          |      |  | 1 10 500 C                           |
| 237 | GOST IEC 60947-6-1 § 8.3.3.4.1 |                                       |          |      | Insulation resistance.                     | Passed / failed                      |
|     |                                |                                       |          |      |  | 1 к $\Omega$ to 70 G $\Omega$        |
| 238 | GOST IEC 60898-1 § 9.3-9.4     | Low voltage switches for              | 27.12.22 | 8536 | Control of marking. Checking of            | Compliant/                           |
|     |                                | household and industrial              |          |      | relialibility of screws, terminals         | noncompliant                         |
| 239 | GOST IEC 60898-1 § 9.11        | purpose                               |          |      | Tests for mechanical wearing tests and     | Passed / failed                      |
|     |                                |                                       |          |      | switching capability:                      |                                      |
|     |                                |                                       |          |      | - current                                  | 0,1 to 120 kA                        |
|     |                                |                                       |          |      | - number of CO sequences                   | 1 to 10 000                          |
|     |                                |                                       |          |      | - times                                    | 1 ms to 60 min                       |
|     |                                |                                       |          |      | - resistance                               | 1 μΩ to 2000 Ω                       |
| 240 | GOST IEC 60898-1 § 9.10        |                                       |          |      | Control of return factor. Control of work- | Compliant/                           |
|     |                                |                                       |          |      | ing of interruptors and motor:             | noncompliant                         |
|     |                                |                                       |          |      | - current                                  | 10 to 20 000 A                       |
|     |                                |                                       |          |      | - temperature rise                         | 1 to $300^{\circ}$ C                 |
|     |                                |                                       |          |      | - times                                    | 1 ms to 60 min                       |
|     |                                |                                       |          |      | - voltage                                  | 1 to 400 V                           |
| 241 | GOST IEC 60898-1 § 9.8; 9.9    |                                       |          |      | Temperature rise tests with rated current: | Passed / failed                      |
|     |                                |                                       |          |      | - current                                  | 10 to 20 000 A                       |
|     |                                |                                       |          |      | - temperature rise                         | 1 to $300^{\circ}$ C                 |
|     |                                |                                       |          |      |  |                                      |
| 242 | GOST IEC 60898-1 § 9.7         |                                       |          |      | Insulation resistance.                     | Passed / failed                      |
|     |                                |                                       |          |      |  | 1 к $\Omega$ to 70 G $\Omega$        |
| 243 | GOST 17242 §§7.2; 8.1          | Fuses voltage to $1000 \text{ V}$ for | 27.12.21 | 8536 | Requirements to construction.              | Passed / failed                      |
|     |                                | household and industrial              |          |      | - geometrical dimensions                   | 1 to 1000 mm                         |
|     |                                | purpose                               |          |      | - mass                                     | 0,1 to 1000 kg                       |
|     |                                |                                       |          |      | Checking of mutual replacement.            |                                      |
|     |                                |                                       |          |      | - Checking of marking                      |                                      |

| 1   | 2                                | 3                              | 4             | 5    | 6  | 7                    |
|-----|----------------------------------|--------------------------------|---------------|------|--|----------------------|
|     |                                  |                                |               |      |  |                      |
|     |                                  |                                |               |      | - torque moment                            | 2 to 30 N·m          |
|     |                                  |                                |               |      |  |                      |
| 244 | GOST 17242 § 7.3.5; 7.3.6;       |                                |               |      | Requirements to temperature rise:          | Passed / failed      |
|     | 7.3.10; 7.3.1                    |                                |               |      | - current                                  | 10 to 20 000 A       |
|     |                                  |                                |               |      | - temperature rise                         | 1 to $300^{\circ}$ C |
|     |                                  |                                |               |      | Over-load capability:                      | 1                    |
|     |                                  |                                |               |      | - current                                  | 10 to 20000 A        |
|     |                                  |                                |               |      | - resistance                               | 1 μΩ to 2000 Ω       |
|     |                                  |                                |               |      | - checking of power losses,                | 1 to 2000 W          |
|     |                                  |                                |               |      | - electrical resistance                    | 1 μΩ to 2000 Ω       |
|     |                                  |                                |               |      |  |                      |
| 245 | GOST 17242 §§7.3.7-7.3.9         |                                |               |      | Short-time withstand tests:                | Passed / failed      |
|     |                                  |                                |               |      | - thermal withstand current                | 0,1 to 120 kA        |
| 246 | GOST 17242 §7.2.4                |                                |               |      | Requirements to mechanical capability      | Passed / failed      |
|     |                                  |                                |               |      | and wearing:                               | 1                    |
|     |                                  |                                |               |      | - number of sequences                      | 1 to 1000 sequences  |
|     |                                  |                                |               |      | - current                                  | 1 to 35 000 A        |
| 247 | GOST 17242 §7.1.2; 7.1.3; 7.3.9; |                                |               |      | Requirements to switching capability and   | Passed / failed      |
|     | 7.3.11                           |                                |               |      | wearing:                                   | 1                    |
|     |                                  |                                |               |      | - number of sequences                      | 1 to 1000 sequences  |
|     |                                  |                                |               |      | - current                                  | 0,1 to 120 000 A     |
| 248 | GOST 2933 §2                     | Automatical and non-           | 27.12.21      | 8536 | Visual control                             | Compliant/           |
|     |                                  | automatical switches,          | 27.33.11      |      | - completeness                             | noncompliant         |
|     |                                  | disconnectors, contactors,     | 27.33.13.140  |      |  | Compliant/           |
|     |                                  | magnetic starters, relays,     | 27.33.13.1505 |      | - marking                                  | noncompliant         |
|     |                                  | controllers, fuses, resistors, |               |      |  | Compliant/           |
|     |                                  | rheostats and other apparat-   |               |      | - absence of pollutions                    | noncompliant         |
|     |                                  | uses                           |               |      |  | Compliant/           |
|     |                                  |                                |               |      | - absence of loosening the fastenings      | noncompliant         |
|     |                                  |                                |               |      |  | Compliant/           |
|     |                                  |                                |               |      | - presence of protectionagainst corrosion  | noncompliant         |
|     |                                  |                                |               |      | and quality offulfilof protective surfaces | Compliant/           |
|     |                                  |                                |               |      |  | noncompliant         |
|     |                                  |                                |               |      | - correctness of fulfilof contact connec-  | Compliant/           |
|     |                                  |                                |               |      | tions                                      | noncompliant         |
|     |                                  |                                |               |      | - compliance with safety requirements      | Compliant/           |
|     |                                  |                                |               |      |  | noncompliant         |
|     |                                  |                                |               |      | - control of electrical resistance         | Compliant/           |
|     |                                  |                                |               |      |  | noncompliant         |

| 1     | 2                      | 3                           | 4        | 5    | 6   | 7                                |
|-------|------------------------|-----------------------------|----------|------|---|----------------------------------|
|       |                        |                             |          |      |   |                                  |
|       |                        |                             |          |      | - checking of mass                        | 0 to 100 kg                      |
|       |                        |                             |          |      |   | Compliant/                       |
|       |                        |                             |          |      |   | noncompliant                     |
|       |                        |                             |          |      | - checking of geometrical dimensions      | 1 to 5 000 mm                    |
|       |                        |                             |          |      |   | Compliant/                       |
|       |                        |                             |          |      |   | noncompliant                     |
|       |                        |                             |          |      | - checking of mutual replacement          | Compliant/                       |
|       |                        |                             |          |      |   | noncompliant                     |
|       |                        |                             |          |      | - Trial montage                           |                                  |
|       |                        |                             |          |      |   |                                  |
| 249   | GOST 2933 §5, 6        |                             |          |      | Requirements totemperature rise:          | Passed / failed                  |
|       |                        |                             |          |      | - current                                 | 10 to 20 000 A                   |
|       |                        |                             |          |      | - temperature rise                        | 1 to $300^{\circ}$ C             |
|       |                        |                             |          |      | Over-loadcapability:                      |                                  |
|       |                        |                             |          |      | - current                                 | 10 to 20000 A                    |
|       |                        |                             |          |      | - resistance                              | 1 μ $\Omega$ to 2000 $\Omega$    |
|       |                        |                             |          |      | - Checking of power losses,               | 1 to 2000 W                      |
|       |                        | _                           |          |      | - electricalresistance                    | $1 \ \mu\Omega$ to 2000 $\Omega$ |
| 250   | GOST 2933 §8           |                             |          |      | Requirements to switching capability:     | Passed / failed                  |
|       |                        |                             |          |      | - number of sequences                     | 1 to 1000 sequences              |
| 0.7.1 | G 0 077 0000 010       | -                           |          |      | - current                                 | 10 to 35 000 A                   |
| 251   | GOST 2933 §10          |                             |          |      | Test for mechanical and switching wear-   | Passed / failed                  |
|       |                        |                             |          |      | ing tests:                                | 1 / 10.000                       |
|       |                        |                             |          |      | - number of sequences                     | 1 to 10 000 sequences            |
|       |                        |                             |          |      | - resistance                              | 1 μΩ to 2000 Ω                   |
| 252   | GOST 2933 Section 9    | 4                           |          |      | Short-time withstand tests:               | Passed / failed                  |
|       |                        |                             |          |      | - electrodynamic withstand current        | 0,1 to 320 kA;                   |
|       |                        |                             |          |      | - thermal withstand current               | 0,1 to 120 kA                    |
| 253   | GOST 2327 §6.2         | Low-voltage thrust-in       | 27.33.11 | 8536 | Requirements to of construction, Mark-    | Compliant/                       |
|       |                        | switches, disconnectors,    |          |      | ing, Montage                              | noncompliant                     |
|       |                        | switches-disconnectors, se- |          |      | - geometrical dimensions                  | 1 to 1000 mm                     |
|       |                        | lectors and selectors-      |          |      | - mass                                    | 0,1 to 1000 kg                   |
|       |                        | disconnectors               |          |      | - Checking of forces for handling         | 0,1 to 1000 N                    |
|       |                        | for voltage to 1000 V       |          |      | - Checking of contact pressure            | 0,1 to 1000 N                    |
| 254   | GOST 2327 §6.3.1-6.3.2 | 4                           |          |      | Control of apparatuses for compliance to  | Compliant/                       |
| _     | 0                      |                             |          |      | requirements to electrical parameters and | noncompliant                     |
|       |                        |                             |          |      | duties:                                   | L                                |

| 1   | 2                                   | 3                            | 4        | 5    | 6   | 7                                   |
|-----|-------------------------------------|------------------------------|----------|------|---|-------------------------------------|
|     |                                     |                              |          |      |   |                                     |
|     |                                     |                              |          |      | - Power-frequency test voltage            | 0,1 to 5 kV                         |
|     |                                     |                              |          |      | - Insulation resistance.                  | 1 к $\Omega$ to 70 G $\Omega$       |
|     |                                     |                              |          |      |   |                                     |
| 255 | GOST 2327 §6.3.7                    |                              |          |      | Requirements to temperature rise:         | Passed / failed                     |
|     |                                     |                              |          |      | - current                                 | 10 to 20 000 A                      |
|     |                                     |                              |          |      | - temperature rise                        | 1 to 300°C                          |
|     |                                     |                              |          |      | - resistance                              | 1 μΩ to 2000 Ω                      |
| 276 |                                     | -                            |          |      |   |                                     |
| 256 | GOST 2327 §6.3.3                    |                              |          |      | Switching capability and wearing tests:   | Passed / failed                     |
|     |                                     |                              |          |      | - number of sequences                     | 0 to 100 000 sequences              |
|     |                                     |                              |          |      | - resistance                              | $1 \mu\Omega$ to 2000 $\Omega$      |
| 257 | COST 2227 86 2 6                    | -                            |          |      | - current                                 | 0,1 to 120 KA                       |
| 257 | GOST 2327 §6.3.6                    |                              |          |      | Short-time withstand tests:               | Passed / failed                     |
|     |                                     |                              |          |      | - electrodynamic withstand current        | 0,1 to 320 kA;                      |
|     |                                     |                              |          |      | - thermal withstand current               | 0,1 to 120 kA;                      |
|     |                                     |                              |          |      |   |                                     |
| 258 | GOST 2327-89 §6.3.4                 |                              |          |      | Requirements to mechanical withstand      | Passed / failed                     |
|     |                                     |                              |          |      | and wearing:                              |                                     |
|     |                                     |                              |          |      | - number of sequences                     | 0 to 100 000 sequences              |
|     |                                     |                              |          |      | - resistance                              | 0 to 2000 Ω                         |
|     |                                     |                              |          |      | - current                                 | 0 to 20 000 A                       |
| 259 | GOST R 50030.3 §8.2, 8.3.3.7        | Automatic thrust-in low-     | 27.33.11 | 8536 | Requirements to construction, Marking,    | Compliant/                          |
|     |                                     | voltage switches,            |          |      | Montage                                   | noncompliant                        |
|     |                                     | disconnectors, switches-     |          |      | - geometrical dimensions                  | 1 to 1000 mm                        |
|     |                                     | disconnectors, selectors and |          |      | - mass                                    | 0,1 to 1000 kg                      |
|     |                                     | selectors-disconnectors      |          |      | - Checking of forces for handling         | 0,1 to 1000 N                       |
|     |                                     | for voltage to 1000 V        |          |      | - Checking of contact pressure            | 0,1 to 1000 N                       |
| 260 | GOST R 50030.3 §8.1.3.3.            | 1                            |          |      | Control of apparatuses for compliance to  | Compliant/                          |
|     | 8.3.3.2. 8.3.3.4. 8.3.7.2. 8.3.6.3. |                              |          |      | requirements to electrical parameters and | noncompliant                        |
|     | 8.3.5.3, 8.3.4.2                    |                              |          |      | duties:                                   | £                                   |
|     |                                     |                              |          |      | - Power-frequency test voltage            | 0,1 to 5 kV                         |
|     |                                     |                              |          |      | - Insulation resistance.                  | 1 to 70 GΩ                          |
|     |                                     |                              |          |      |   |                                     |
| 261 | GOST R 50030.3 §8.3.3.1,            |                              |          |      | Requirements to temperature rise:         | Passed / failed                     |
|     | 8.3.3.6, 8.3.4.4, 8.3.5.5, 8.3.6.5, |                              |          |      | - current                                 | 10 to 20 000 A                      |
|     | 8.3.7.1, 8.3.7.4                    |                              |          |      | - temperature rise                        | $1 \text{ to } 300^{\circ}\text{C}$ |
|     |                                     |                              |          |      | - resistance                              | 1 μΩ to 2000 Ω                      |

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|      |                             |                             |          |      |   |                                   |
|      |                             |                             |          |      |   |                                   |
| 262  | GOST R 50030.3 §8.3.3.3,    |                             |          |      | Switching capability and wearing tests:     | Passed / failed                   |
|      | 8.3.4.1, 8.3.5.2, 8.3.6.2.1 |                             |          |      | - number of sequences                       | 0 to 100 000 sequences            |
|      |                             |                             |          |      | - resistance                                | 1 μΩ to 2000 Ω                    |
|      |                             |                             |          |      | - current                                   | 0,1 to 120 kA                     |
|      |                             |                             |          |      |   |                                   |
|      |                             |                             |          |      |   |                                   |
| 262  | COST D 50020 2 80 2 5 1     | -                           |          |      |   | D 1/6 1 1                         |
| 263  | GUST R 50030.3 §8.3.5.1,    |                             |          |      | Short-time withstand tests:                 | Passed / failed                   |
|      | 8.3.0.2.1                   |                             |          |      | - electrodynamic withstand current          | 0,1 to 320 kA;                    |
|      |                             |                             |          |      | - mermar withstand current                  | 0,1 to 120 kA,                    |
|      |                             |                             |          |      |   |                                   |
|      |                             |                             |          |      |   |                                   |
| 264  | GOST 19132 §§6.4; 6,5       | Type setting contact termi- | 27.33.11 | 8535 | Checking of construction. Marking.          | Compliant/                        |
|      |                             | nals                        |          | 8536 | Montage                                     | noncompliant                      |
|      |                             | Contact connections         |          |      | - geometrical dimensions                    | 1to 1000 mm                       |
|      |                             | - separable                 |          |      | - mass                                      | 0,1 to 100 kg                     |
|      |                             | - non-separable             |          |      | - Checking of marking                       |                                   |
| 265  | GOST 19132 §§6.10-6.13      |                             |          |      | Temperature rise tests with rated current:  | Passed / failed                   |
|      |                             |                             |          |      | - current                                   | 10 to 20 000 A                    |
|      |                             |                             |          |      | - temperature rise                          | 1 to 300°C                        |
|      |                             |                             |          |      | - electrical resistance                     | 1 µs2 to 2000 s2                  |
| 266  | GOST 19132 886 11: 6 14     | 4                           |          |      | Short time withstand tests:                 | Passed / failed                   |
| 200  | 0031 19132 880.11, 0.14     |                             |          |      | - electrodynamic withstand current          | Tassed / Tanee                    |
|      |                             |                             |          |      | - thermal withstand current                 | 0.1 to 320 kA                     |
|      |                             |                             |          |      |   | 0,1 to $120$ kA;                  |
|      |                             |                             |          |      |   |                                   |
| 267  | GOST R 51155 § 5.1.4-5.1.6  | Line fittings               | 27.33.11 | 8535 | Checking of construction. Marking.          | Compliant/                        |
|      |                             | Contact connections         |          | 8536 | Montage                                     | noncompliant                      |
|      |                             | - separable                 |          |      | - geometrical dimensions                    | 1 to 1000 mm                      |
|      |                             | - non-separable             |          |      | - mass                                      | 0,1 to 100 kg                     |
| 0.00 | 000T D 51155 85 2 5 12      | 4                           |          |      | - Checking of marking                       | D 1/011                           |
| 268  | GUST K 51155 §5.3, 5.12     |                             |          |      | I emperature rise tests with rated current: | Passed / tailed                   |
|      |                             |                             |          |      | - current                                   | 10 to 20 000 A<br>1 to $200^{0}C$ |
|      |                             |                             |          |      | - temperature rise                          | 1  to  500  C                     |
|      |                             |                             |          |      |   | 1 µsz to 2000 sz                  |
| 1    | 1                           |                             | 1        | 1    |   | 1                                 |

| 1   | 2                            | 3                          | 4        | 5    | 6  | 7                             |
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|     |                              |                            |          |      |  |                               |
| 269 | GOST R 51155 §5.3.8          |                            |          |      | Short-time withstand tests:                | Passed / failed               |
|     |                              |                            |          |      | - electrodynamic withstand current         | 0,1 to 320 kA;                |
|     |                              |                            |          |      | - thermal withstand current                | 0,1 to 120 kA;                |
|     |                              |                            |          |      |  | 1                             |
| 270 | GOST 23981 §§5.1; 5.2; 5.7   | Cable tips                 | 27.33.11 | 8535 | Checking of construction. Marking.         | Compliant/                    |
|     |                              | Contact connections        |          | 8536 | Montage                                    | noncompliant                  |
|     |                              | - separable                |          |      | - geometrical dimensions                   | 1 to 1000 mm                  |
|     |                              | - non-separable            |          |      | - mass                                     | 0,1 to 100 kg                 |
|     |                              | _                          |          |      | - Checking of marking                      | -                             |
| 271 | GOST 23981 §5.6              |                            |          |      | Temperature rise tests with rated current: | Passed / failed               |
|     | ·                            |                            |          |      | - current                                  | 10 to 20 000 A                |
|     |                              |                            |          |      | - temperature rise                         | 1 to $300^{\circ}$ C          |
|     |                              |                            |          |      | - electrical resistance                    | 1 μΩ to 2000 Ω                |
| 272 | GOST 23981 §5.6              |                            |          |      | Short-time withstand tests:                | Passed / failed               |
|     | 0                            |                            |          |      | - electrodynamic withstand current         | 0.5 to 320 kA;                |
|     |                              |                            |          |      | - thermal withstand current                | 0,5 to 120 kA;                |
|     |                              |                            |          |      | - temperature rise                         | 1 to 300 <sup>°</sup> C       |
|     |                              |                            |          |      | - electrical resistance                    | 1 μΩ to 2000 Ω                |
|     |                              |                            |          |      |  | •                             |
| 273 | GOST 2744 § 2.14, 2.16       | Line fittings              | 27.33.11 | 8535 | Checking of construction. Marking.         | Compliant/                    |
|     |                              | Contact connections        |          | 8536 | Montage                                    | noncompliant                  |
|     |                              | - separable                |          |      | - geometrical dimensions                   | 1 to 1000 mm                  |
|     |                              | - non-separable            |          |      | - mass                                     | 0,1 to 100 kg                 |
|     |                              |                            |          |      | - Checking of marking                      |                               |
| 274 | GOST 2744 §§2.20             |                            |          |      | Temperature rise tests with rated current: | Passed / failed               |
|     |                              |                            |          |      | - current                                  | 10 to 20 000 A                |
|     |                              |                            |          |      | - temperature rise                         | 1 to $300^{\circ}$ C          |
|     |                              |                            |          |      | - electrical resistance                    | 1 μΩ to 2000 Ω                |
|     |                              |                            |          |      |  |                               |
| 275 | GOST 2744 §2.20              |                            |          |      | Short-time withstand tests:                | Passed / failed               |
|     | ~                            |                            |          |      | - electrodynamic withstand current         | 0,5 to 320 kA;                |
|     |                              |                            |          |      | - thermal withstand current                | 0,5 to 120 kA;                |
|     |                              |                            |          |      | - temperature rise                         | 1 to 300 <sup>0</sup> C       |
|     |                              |                            |          |      | - electrical resistance                    | 1 μ $\Omega$ to 2000 $\Omega$ |
| 276 | GOST 17441-84 §§2.2.1-2.2.6; | Contact electrical connec- | 27.33.11 | 8535 | Checking of construction. Marking.         | Compliant/                    |
|     |                              | tions                      |          | 8536 | Montage                                    | noncompliant                  |
|     |                              |                            |          |      | - geometrical dimensions                   | 1 to 1000 mm                  |
|     |                              |                            |          |      | - mass                                     | 0,1 to 100 kg                 |
|     |                              |                            |          |      | - Checking of marking                      | -                             |

|     |   |   |                              |      |  | On 61 pages, page 48   |
|-----|---|---|------------------------------|------|--|--|
| 1   | 2   | 3   | 4                            | 5    | 6  | 7  |
|     |   |   |                              |      |  |  |
| 277 | GOST 17441 §§ 2.6; 2.7; 2.8;<br>2.10                  |   |                              |      | Temperature rise tests with rated current:<br>- current<br>- temperature rise<br>- electrical resistance   | Passed / failed<br>10 to 20 000 A<br>1 to 300 <sup>0</sup> C<br>1 μΩ to 2000 Ω                   |
| 278 | GOST 17441 §§ 2.9                                     |   |                              |      | Short-time withstand tests:<br>- electrodynamic withstand current<br>- thermal withstand current<br>- temperature rise<br>- electrical resistance  | Passed / failed<br>0,5 to 320 kA;<br>0,5 to 120 kA;<br>1 to 300 <sup>0</sup> C<br>1 μΩ to 2000 Ω |
| 279 | GOST 2491 §§6.1                                       | Electromagnetic low-voltage starters      | 27.33.13.140<br>27.33.13.150 | 8536 | Checking of construction. Marking.<br>Montage<br>- geometrical dimensions<br>- mass<br>- checking of marking   | Compliant/<br>noncompliant<br>1 mm to 1000 mm<br>0,1 to 100 kg                                   |
| 280 | GOST 2491 §§6.1; 6.2                                  |   |                              |      | Power-frequency test voltage   | Passed / failed<br>- 0,5 to 5 kV   |
| 281 | GOST 2491 §6.1  |   |                              |      | Temperature rise tests with rated current,<br>Checking of actuation and return, re-<br>sistance and electrical strength of insula-<br>tion at heated condition:<br>- current<br>- resistance | Passed / failed<br>1 to 20 000 A<br>1 μΩ to 2000 Ω   |
|     |   |   |                              |      | - electrical strength of insulation  | 1 κΩ to 70 GΩ  |
| 282 | GOST 2491 §§6.1; 6.4; 6.8-6.10                        |   |                              |      | Switching capability and switching wear-<br>ing tests<br>- number of sequences<br>- resistance<br>- current  | Passed / failed<br>0 to 100 000 sequences<br>1 μΩ to 2000 Ω<br>0,1 to 120 kA                     |
| 283 | GOST 2491 §6.11                                       |   |                              |      | Requirements to mechanical wearing:<br>- number of sequences<br>- resistance<br>- current  | Passed / failed<br>0 to 100 000 sequences<br>1 μΩ to 2000 Ω<br>10 to 20 000 A                    |
| 284 | GOST IEC 60947-4-1 § 8.2.3,<br>9.3.3.4                | Electromechanical contactors and starters | 27.33.13.140<br>27.33.13.150 | 8536 | Power-frequency test voltage   | Passed / failed<br>0,5 to 5 kV   |
| 285 | GOST IEC 60947-4-1 § 8.2.1,<br>8.2.2, 9.3.3.1-9.3.3.3 |   |                              |      | Temperature rise tests with rated current,<br>Checking of actuation and return, re-  | Passed / failed  |

| 1   | 2  | 3   | 4        | 5    | 6   | 7  |
|-----|--|---|----------|------|---|--|
|     |  |   |          |      | sistance and electrical strength of insula-<br>tion at heated condition:<br>- current<br>- resistance<br>- electrical strength of insulation      | 1 to 20 000 A<br>1 μΩ to 2000 Ω<br>1 κΩ to 70 GΩ   |
| 286 | GOST IEC 60947-4-1 § 8.2.4,<br>9.3.3.5                       |   |          |      | Switching capability and switching wear-<br>ing tests<br>- number of sequences<br>- resistance<br>- current                                       | Passed / failed<br>0 to 100 000 sequences<br>1 μΩ to 2000 Ω<br>0,1 to 120 kA                     |
| 287 | GOST IEC 60947-4-1 § 8.2.4,<br>9.3.3.5                       |   |          |      | Requirements to mechanical wearing:<br>- number of sequences<br>- resistance<br>- current   | Passed / failed<br>0 to 100 000 sequences<br>1 μΩ to 2000 Ω<br>10 to 20 000 A                    |
| 288 | GOST IEC 60947-4-1 § 8.2.5,<br>9.3.4                         |   |          |      | Short-time withstand tests:<br>- electrodynamic withstand current<br>- thermal withstand current<br>- temperature rise<br>- electrical resistance | Passed / failed<br>0,5 to 320 kA;<br>0,5 to 120 kA;<br>1 to 300 <sup>0</sup> C<br>1 μΩ to 2000 Ω |
| 289 | GOST IEC 61439-1 §§ 10.4;<br>10.9; 11.3; 11.9; Annex F, G, L | Low-voltage switchgears<br>and controlgears (NKU) | 27.12.31 | 8537 | Power-frequency test voltage<br>Air gaps and creepage distance<br>Insulation resistance.  | Passed / failed<br>0,5 to 5 kV<br>1 to 1000 mm<br>1 κΩ to 70GΩ                                   |
| 290 | GOST IEC 61439-1 §§10.8;<br>10.10; Annex A, E, H, M, N, O    |   |          |      | Temperature rise tests with rated current:<br>- current<br>- temperature rise   | Passed / failed<br>10 to 20 000 A<br>1 to 300 <sup>0</sup>                                       |
| 291 | GOST IEC 61439-1 §§10.5.3;<br>10.11; Annex B, P              |   |          |      | Short-time withstand tests:<br>- electrodynamic withstand current<br>- thermal withstand current  | Passed / failed<br>0,1 to 320 kA;<br>0,1 to 120 kA   |
| 292 | GOST IEC 61439-1 §10.13                                      |   |          |      | Mechanical capability   | Passed / failed  |

| 1   | 2                              | 3                            | 4        | 5    | 6  | 7                                    |
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|     |                                |                              | •        | •    |  |                                      |
|     |                                |                              |          |      | - number of operating sequences<br>- Checking of operating characteristics | 1 to 50 sequences                    |
| 293 | GOST 32396 §§9.17; 9.31-9.33   | Input–distributive devices   | 27.12.31 | 8537 |  | Passed / failed                      |
|     |                                | for living and public build- |          |      | Power-frequency test voltage<br>Air gaps and creepage distance             | 0,5  to  5  kV<br>1 to 1000 mm       |
|     |                                |                              |          |      | Insulation resistance.   | 1 κΩ to 70GΩ                         |
| 294 | GOST 32396 §§9.29              |                              |          |      | Temperature rise tests with rated current:                                 | Passed / failed                      |
|     |                                |                              |          |      | - current  | 10 to 20 000 A<br>1 to $300^{\circ}$ |
| 295 | GOST 32396 §§9.24; 9.30        | -                            |          |      | Short-time withstand tests:  | Passed / failed                      |
|     | 00 /                           |                              |          |      |  |                                      |
|     |                                |                              |          |      | - electrodynamic withstand current   | 0,1 to 320 kA;                       |
| 296 | GOST 32396 889 9: 9 10: 9 25   | -                            |          |      | - thermal withstand current<br>Mechanical canability:                      | 0,1 to 120 KA<br>Passed / failed     |
| 270 | 0001 52570 887.7, 7.10, 7.25   |                              |          |      | - number of operating sequences  | 1 to 50 sequences                    |
|     |                                |                              |          |      | - Checking of operating characteristics                                    |                                      |
| 297 | GOST IEC 60439-3 §§8.2.1;      | Low-voltage switchgears      | 27.12.31 | 8537 | Temperature rise tests with rated current:                                 | Passed / failed                      |
|     | 8.2.3.1                        | and controlgears (NKU)       |          |      | - current  | 10  to  20 000  A<br>1 rO to 70 GO   |
|     |                                |                              |          |      | - temperature rise   | $1 \text{ to } 300^{\circ}$          |
|     |                                |                              |          |      | •  |                                      |
| 298 | GOST IEC 60439-3 §§8.2.3;      |                              |          |      | Short-time withstand tests:  | Passed / failed                      |
|     | 0.2.4, 0.2.4.1, 0.2.4.2, 0.3.3 |                              |          |      | - electrodynamic withstand current   | 0.5 to 320 kA:                       |
|     |                                |                              |          |      | - thermal withstand current  | 0,5 to 120 kA;                       |
|     |                                |                              |          |      | - temperature rise   | 1 to $300^{\circ}$                   |
|     |                                |                              |          |      | - resistance with protective bus   | 1 μ $\Omega$ to 2000 $\Omega$        |
| 299 | GOST IEC 60439-3 §§8.2.6;      | -                            |          |      | Mechanical capability:   | Passed / failed                      |
|     | 8.2.15                         |                              |          |      | - number of operating sequences  | 1 to 50 sequences                    |
|     |                                |                              |          |      | - Checking of operating characteristics                                    |                                      |
| 300 | GOST R IEC 61439-2 §11.8       | Low-voltage switchgears      | 27.12.31 | 8537 | Mechanical capability:   | Passed / failed                      |
|     |                                | and controlgears.            |          |      | - number of operating sequences  | 1 to 50 sequences                    |
| 201 | COST 22205 \$\$10.2( 10.29     | Power switchgears            | 27 12 21 | 0527 | - checking of operating characteristics                                    | Decord / fr:1-d                      |
| 301 | 0051 32393 8810.20-10.28       | distributive devices for in- | 27.12.31 | 8337 | Air gaps and creepage distance   | -0.5 to $5$ kV                       |
|     |                                | dustrial, living and public  |          |      | Insulation resistance.   | - 1 to 1000 mm                       |
|     |                                | buildings                    |          |      |  | 1 к $\Omega$ to 70G $\Omega$         |

| 1   | 2                            | 3                             | 4        | 5    | 6  | 7                                  |
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|     |                              |                               |          | -    |  |                                    |
|     |                              |                               |          |      |  |                                    |
| 302 | GOST 32395 §10.25            |                               |          |      | Temperature rise tests with rated current: | Passed / failed                    |
|     |                              |                               |          |      | - current                                  | 1 to 20 000 A                      |
|     |                              |                               |          |      | - Insulation resistance.                   | 1 κΩ to 70 GΩ                      |
|     |                              |                               |          |      | - temperature rise                         | 1 to $300^{\circ}$                 |
|     |                              |                               |          |      |  |                                    |
| 303 | GOST 32395 §10.7             |                               |          |      | Mechanical capability:                     | Passed / failed                    |
|     |                              |                               |          |      | - number of operating sequences            | 1 to 50 sequences                  |
|     |                              |                               |          |      | - Checking of operating characteristics    |                                    |
|     |                              |                               |          |      |  |                                    |
| 304 | GOST 32397 §§10.24; 10.25    | Distributive shields for in-  | 27.12.31 | 8537 | Power-frequency test voltage               | Passed / failed                    |
|     |                              | dustrial and public buildings |          |      | Air gaps and creepage distance             | - 0,5 to 5 kV                      |
|     |                              |                               |          |      | Insulation resistance.                     | - 1 to 1000 mm                     |
|     |                              | -                             |          |      |  | $1 $ κ $\Omega$ to $70$ G $\Omega$ |
| 305 | GOST 32397 § 10.23           |                               |          |      | Temperature rise tests with rated current: | Passed / failed                    |
|     |                              |                               |          |      | - current                                  | 1 to 20 000 A                      |
|     |                              |                               |          |      | - Insulation resistance.                   | 1 κΩ to 70 GΩ                      |
|     |                              |                               |          |      | - temperature rise                         | 1 to 300°                          |
| 306 | GOST 32397 §§10.12; 10.27    |                               |          |      | Short-time withstand tests:                | Passed / failed                    |
|     |                              |                               |          |      | - electrodynamic withstand current         | 0,5 to 320 kA;                     |
|     |                              |                               |          |      | - thermal withstand current                | 0,5 to $120$ kA;                   |
|     |                              |                               |          |      | - temperature rise                         | 1 to 300°C                         |
|     |                              | -                             |          |      | - resistance with protective bus           | 1 μΩ to 2000 Ω                     |
| 307 | GOST 32397 §10.7             |                               |          |      | Mechanical capability:                     | Passed / failed                    |
|     |                              |                               |          |      | - number of operating sequences            | 1 to 50 sequences                  |
|     |                              |                               |          |      | - Checking of operating characteristics    | ~                                  |
| 308 | GOST 6815 §§6.1; 6.1a; 6.15; | Magistral and distributive    | -        | 8544 | Checking of construction. Mass. Mark-      | Compliant/noncompliant             |
|     | 6.16                         | busducts for AC voltage to    |          |      | ing. Montage.                              | 1 to 5000 mm                       |
|     |                              | 1000 V                        |          |      | - geometrical dimensions                   | 1 to 10 000 kg                     |
| 200 |                              | -                             |          |      | - mass                                     |                                    |
| 309 | GOST 6815 §§6.6; 6.14        |                               |          |      | Power-frequency test voltage               | Passed / failed                    |
|     |                              |                               |          |      | Insulation resistance.                     | - 0,5 to 5 kV                      |
| 010 |                              | 4                             |          |      |  | 1 κΩ to 70 GΩ                      |
| 310 | GOST 6815 §§6.3; 6.10        |                               |          |      | Temperature rise tests with rated current: | Passed / failed                    |
|     |                              |                               |          |      | - current                                  | 1  to  20 000  A                   |
|     |                              | 4                             |          |      | - temperature rise                         | $1 \text{ to } 300^{\circ}$        |
| 311 | GOST 6815 §6.12              |                               |          |      | Short-time withstand tests:                | Passed / failed                    |
|     |                              |                               |          | 1    | - electrodynamic withstand current         |                                    |

| On 61 | pages. | page | 52 |
|-------|--------|------|----|
|       | pages, | page | 21 |

| 1   | 2                            | 3                            | 4 | 5    | 6  | 7                              |
|-----|------------------------------|------------------------------|---|------|--|--------------------------------|
|     |                              |                              |   |      |  |                                |
|     |                              |                              |   |      | - thermal withstand current                | 0,5 to 320 kA;                 |
|     |                              |                              |   |      | - resistance of safety conductor           | 0,5 to 120 kA;                 |
|     |                              |                              |   |      |  | 1 μΩ to 2000 Ω                 |
| 312 | GOST 6815 §6.2, 6.2a         |                              |   |      | Mechanical capability:                     | Passed / failed                |
|     |                              |                              |   |      | - number of sequences                      | 1 to 50 sequences              |
|     |                              |                              |   |      | - load                                     | 1 to 10 000 kg                 |
|     |                              |                              |   |      |  |                                |
| 313 | GOST 24752 §§5.1; 5.12; 5.14 | Trolley busducts for voltage | - | 8544 | Checking of construction. Mass. Mark-      | Compliant/                     |
|     |                              | to 1000 V                    |   |      | ing. Montage.                              | noncompliant                   |
|     |                              |                              |   |      | - geometrical dimensions                   | 1 to 5000 mm                   |
|     |                              |                              |   |      | - mass                                     | 1 to 10 000 kg                 |
|     |                              |                              |   |      | - resistance of safety conductor           | 1 μ $\Omega$ to 2000 $\Omega$  |
|     |                              | _                            |   |      |  |                                |
| 314 | GOST 24752 §§5.7; 5.12       |                              |   |      | Power-frequency test voltage               | Passed / failed                |
|     |                              |                              |   |      | Insulation resistance.                     | - 0,5 to 5 kV                  |
|     |                              |                              |   |      | - resistance of safety conductor           | 1 κ $\Omega$ to 70G $\Omega$   |
|     |                              | _                            |   |      |  | 1 $\mu$ Ω to 2000 Ω            |
| 315 | GOST 24752 §§5.4; 5.6        |                              |   |      | Temperature rise tests with rated current: | Passed / failed                |
|     |                              |                              |   |      | - current                                  | 10 to 20 000 A                 |
|     |                              |                              |   |      | - temperature rise                         | 1 to $300^{\circ}$             |
|     |                              | _                            |   |      |  |                                |
| 316 | GOST 24752 §5.5              |                              |   |      | Short-time withstand tests:                | Passed / failed                |
|     |                              |                              |   |      |  | 0.1. 000.1.4                   |
|     |                              |                              |   |      | - electrodynamic withstand current         | 0,1 to 320 kA;                 |
|     |                              |                              |   |      | - thermal withstand current                | 0,1 to 120 kA;                 |
| 017 |                              |                              |   | 0544 | - resistance of safety conductor           | $1 \mu\Omega$ to 2000 $\Omega$ |
| 317 | GOST 26346 §§6.1; 6.18       | Lighting busducts for AC     | - | 8544 | Checking of construction. Mass. Mark-      | Compliant/                     |
|     |                              | voltage to 660 V             |   |      | ing. Montage.                              | noncompliant                   |
|     |                              |                              |   |      | - geometrical dimensions                   | 1 to 5000 mm                   |
|     |                              |                              |   |      | - mass                                     | 1 to 10 000 kg                 |
|     |                              | 4                            |   |      | - resistance of safety conductor           | $1 \mu\Omega$ to 2000 $\Omega$ |
| 318 | GOST 26346 §6.5              |                              |   |      | Power-frequency test voltage               | Passed / failed                |
|     |                              |                              |   |      | Insulation resistance.                     | - 0,5 to 5 kV                  |
|     |                              |                              |   |      | - resistance of safety conductor           | 1 κ $\Omega$ to 70G $\Omega$   |
|     |                              | 4                            |   |      |  | 1 μΩ to 2000 Ω                 |
| 319 | GOST 26346 §§6.3; 6.13       |                              |   |      | Temperature rise tests with rated current: | Passed / failed                |
|     |                              |                              |   |      | - current                                  | 10 to 20 000 A                 |
|     |                              |                              |   |      | - temperature rise                         | 1 to $300^{\circ}$             |
| 1   |                              |                              |   |      |  | 1                              |

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|                          |  | r  |              |                     | ,   |   |
| 320                      | GOST 26346 §6.4  |  |              |                     | Short-time withstand tests:   | Passed / failed   |
|                          |  |  |              |                     |   |   |
|                          |  |  |              |                     | - electrodynamic withstand current  | 0,1 to 320 kA;  |
|                          |  |  |              |                     | - thermal withstand current   | 0,1 to 120 kA;  |
|                          |  |  |              |                     | - resistance of safety conductor  | 1 μΩ to 2000 Ω  |
| 221                      |  | D. I.  |              | 0544                |   | D 1/C 11 1  |
| 321                      | GOST R 51321.2 §§ 7.1.2.3.4;   | Busducts.  | -            | 8544                | Power-frequency test voltage  | Passed / failed   |
|                          | 7.1.2.3.5  | Low-voltage switchgears  |              |                     | Insulation resistance.  | -0.5 to 5 kV  |
|                          |  | and controlgears   |              |                     | - resistance of safety conductor  | $1 \text{ K}\Omega$ to 70GΩ   |
|                          |  |  |              |                     |   | 1  μΩ to 2000 Ω   |
| 322                      | GOST R 51321.2 §§ 8.2.1;   |  |              |                     | Temperature rise tests with rated current:  | Passed / failed   |
|                          | 8.2.11; 8.2.13; Annex J; N   |  |              |                     | - current   | 10 to 20 000 A  |
|                          |  |  |              |                     | - temperature rise  | $1 \text{ to } 300^{\circ}$   |
| 323                      | GOST R 51321.2 §§8.2.3; 8.2.13   |  |              |                     | Short-time withstand tests:   | Passed / failed   |
|                          |  |  |              |                     |   | 0.1. 200.1.4  |
|                          |  |  |              |                     | - electrodynamic withstand current  | 0,1 to 320 kA;  |
|                          |  |  |              |                     | - thermal withstand current   | 0,1 to 120 kA;  |
|                          |  |  |              |                     | - resistance of safety conductor  | 1  μΩ to 2000 Ω   |
| 324                      | GOST R 51321.2 §8.2.10   |  |              |                     | Test for mechanical strength  | Passed / failed   |
|                          |  |  |              |                     |   | - 1 to 10 000 kg  |
| 225                      | COST 10602 86 2  | Canagitive appled hushings   | 27.00.12.120 | <b>85</b> 46 000000 | Tests for compliance to requirements  |   |
| 525                      | 0051 10095 §0.2  | for rated voltage 110 kV and   | 27.90.12.120 | 8346 900000         | rests for compliance to requirements  |   |
|                          |  | higher   |              |                     | assembling drawing, including during  |   |
|                          |  | Inglief  |              |                     | safety checking.  | (0  to  5000  mm)   |
|                          |  |  |              |                     | - geometrical, mounting and connecting  | (0 to 3000 mm)  |
|                          |  |  |              |                     | amensions   |   |
|                          |  |  |              |                     | absonas of visible defects  | Compliant /   |
|                          |  |  |              |                     | - absence of visible defects  |   |
| 326                      | GOST 10693 86 6  |  |              |                     | Tests for withstand:  | noncompnan  |
| 520                      | 3331 10075 30.0  |  |              |                     | During short-circuit current:   |   |
|                          |  |  |              |                     | - electrodynamic withstand current  | (0  to  320  kA)  |
|                          |  |  |              |                     | electrodynamic wraistand current  | Passed / failed   |
|                          |  |  |              |                     | - thermal withstand current   | (0  to  120  kA)  |
|                          |  |  |              |                     | therman withstand current   | Passed / failed   |
|                          |  |  |              |                     | During switching  |   |
|                          |  |  |              |                     | - amplitude voltage   | (0  to  308  kV)  |
|                          |  |  |              |                     | umphtude voltage  | Passed / failed   |
|                          |  |  |              |                     | - RMS voltage   | (0  to  220  kV)  |
| 323<br>324<br>325<br>326 | GOST R 51321.2 §§8.2.3; 8.2.13<br>GOST R 51321.2 §8.2.10<br>GOST 10693 §6.2<br>GOST 10693 §6.6 | Capacitive sealed bushings<br>for rated voltage 110 kV and<br>higher | 27.90.12.120 | 8546 900000         | Short-time withstand tests:<br>- electrodynamic withstand current<br>- thermal withstand current<br>- resistance of safety conductor<br>Test for mechanical strength<br>Tests for compliance to requirements<br>assembling drawing, including during<br>safety checking:<br>- geometrical, mounting and connecting<br>dimensions<br>- absence of visible defects<br>Tests for withstand:<br>During short-circuit current:<br>- electrodynamic withstand current<br>- thermal withstand current<br>During switching:<br>- amplitude voltage<br>- RMS voltage | Passed / failed<br>0,1 to 320 kA;<br>0,1 to 120 kA;<br>1 $\mu\Omega$ to 2000 $\Omega$<br>Passed / failed<br>- 1 to 10 000 kg<br>(0 to 5000 mm)<br>Compliant /<br>noncompliant<br>Compliant /<br>noncompliant<br>(0 to 320 kA)<br>Passed / failed<br>(0 to 120 kA)<br>Passed / failed<br>(0 to 308 kV)<br>Passed / failed<br>(0 to 220 kV) |

| 1   | 2                  | 3                            | 4            | 5           | 6  |                 |
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|     | _                  |                              |              |             | -  | · ·             |
|     |                    |                              |              |             |  | Passed / failed |
|     |                    |                              |              |             | - RMS value of short-circuit current       | (0 to 63 kA)    |
|     |                    |                              |              |             |  | Passed / failed |
|     |                    |                              |              |             | - peak value of short-circuit current      | (0 to 170 kA)   |
|     |                    |                              |              |             | -  | Passed / failed |
|     |                    |                              |              |             | - control mechanical and time character-   | (0 to 30 min);  |
|     |                    |                              |              |             | istics                                     | Compliant /     |
|     |                    |                              |              |             |  | noncompliant    |
| 327 | GOST 10693 §6.7    |                              |              |             | Temperature rise tests with rated current: | Passed/ failed  |
|     |                    |                              |              |             | - current                                  | 10 to 20 000 A  |
|     |                    |                              |              |             | - temperature rise                         | 1 to 300 °C     |
|     |                    |                              |              |             |  |                 |
| 328 | GOST 10693 §6.8    |                              |              |             | Checking of electrical resistance          | 0 to 1000 Ω     |
|     |                    |                              |              |             |  | Compliant /     |
| 220 |                    |                              |              |             |  | noncompliant    |
| 329 | GOST 10693 §6.9    |                              |              |             | Measurement of Insulation resistance of    | 1000 to 2500 V  |
|     |                    |                              |              |             | measuring or special terminals             | 0 to 50 000 MΩ  |
|     |                    |                              |              |             |  | Noncompliant /  |
|     |                    |                              |              |             |  | Noncompnant     |
| 330 | GOST 10693 86 13   |                              |              |             | Test for mechanical wearing tests          | Passed/ failed  |
| 550 | 0001 10095 §0.15   |                              |              |             | to 50 000 sequences                        | Tussed/Tuned    |
|     |                    |                              |              |             |  |                 |
| 331 | GOST R 55187 §9.1  | Insulated bushings for rated | 27.90.12.120 | 8546 900000 | Tests for compliance to requirements       |                 |
|     |                    | voltage above 1000 V AC      |              |             | assembling drawing, including during       |                 |
|     |                    | current                      |              |             | safety checking:                           |                 |
|     |                    |                              |              |             | - geometrical, mounting and connecting     | 0 to 5000 mm    |
|     |                    |                              |              |             | dimensions                                 | Compliant /     |
|     |                    |                              |              |             |  | noncompliant    |
|     |                    |                              |              |             | - absence of visible defects               | Compliant /     |
|     |                    |                              |              |             |  | noncompliant    |
| 332 | GOST R 55187 §9.4  |                              |              |             | Measurement of Insulation resistance of    | 1000 to 2500 V  |
|     |                    |                              |              |             | measuring or special terminals             | 0 to 50 000 MΩ  |
|     |                    |                              |              |             |  | Compliant /     |
| 222 | COST D 55197 80 (  |                              |              |             | Chaptering of algorithms interior          | noncompliant    |
| 555 | GUST K 2218/ 89.0  |                              |              |             | Checking of electrical resistance          | 0 to 1000 12    |
|     |                    |                              |              |             |  | compliant /     |
| 224 | COST P 55187 80 14 | 4                            |              |             | Magurament of graphing distance or         |                 |
| 334 | UUSI K JJ18/ 89.14 |                              |              |             | measurement of creepage distance on        | Compitant /     |

| 1   | 2                                     | 3                              | 4            | 5           | 6  | 7                                  |
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|     |                                       |                                |              |             |  |                                    |
|     |                                       |                                |              |             | surface of external insulation performs according to GOST 9920 | noncompliant                       |
| 335 | GOST R 55187 §9.17                    | 1                              |              |             | Temperature rise tests with rated current:                     | Passed/ failed                     |
|     |                                       |                                |              |             | - current  | (0 to 20 kA):                      |
|     |                                       |                                |              |             | - temperature rise   | $(0 \text{ to } 300 ^{0}\text{C})$ |
|     |                                       | _                              |              |             |  |                                    |
| 336 | GOST R 55187 §9.18                    |                                |              |             | Short-time withstand tests of bushings:                        | Passed / failed                    |
|     |                                       |                                |              |             | alastrodynamic withstand surront                               | (0.1  to  320  kA)                 |
|     |                                       |                                |              |             | - thermal withstand current                                    | (0,1  to  320  kA)                 |
|     |                                       |                                |              |             |  | (0,1 to 120 kA)                    |
| 337 | GOST R 52034 §7.5.1                   | Insulators ceramic support     | 23.43.10.110 | 8546 209900 | Checking of construction. Mass. Mark-                          | Compliant/                         |
|     |                                       | for voltage above 1000 V       |              |             | ing. Montage.  | noncompliant                       |
|     |                                       |                                |              |             | - geometrical dimensions                                       | 1 to 5000 mm                       |
|     |                                       |                                |              |             | - mass   | 1 to 10 000 kg                     |
| 338 | GOST R 52082 888 8 1 8 8 4            | Insulators polymer support     | 23 43 10 110 | 8546 209900 | Checking of construction Mass Mark-                            | Compliant/                         |
| 550 | 885.892.893                           | for outdoor installations for  | 23.13.10.110 | 051020000   | ing Montage  | noncompliant                       |
|     |                                       | voltage 6-220 kV               |              |             | - geometrical dimensions                                       | 1 to 5000 mm                       |
|     |                                       |                                |              |             | - mass   | 1 to 10 000 kg                     |
| 339 | GOST R 52082 §8.4                     | 1                              |              |             | Test for gyrowithstand   | Passed / failed                    |
|     | , , , , , , , , , , , , , , , , , , , |                                |              |             | - current  | 1 to 50 kA                         |
| 340 | GOST 22229 § 1.15                     | Ceramic bushing insulators     | 23.43.10.110 | 8546 209900 | Temperature rise tests with rated current:                     | Passed / failed                    |
|     |                                       | for voltage above 1000 V       |              |             | - current  | 10 to 20 000 A                     |
|     |                                       |                                |              |             | - temperature rise   | 1 to 300 °C                        |
|     |                                       |                                |              |             | - measurement of resistance                                    | I μΩ to 2000 Ω                     |
|     |                                       |                                |              |             |  |                                    |
| 341 | GOST 22229 §1.16                      | 4                              |              |             | Short-time withstand tests:                                    | Passed / failed                    |
|     | , , , , , , , , , , , , , , , , , , , |                                |              |             | - electrodynamic withstand current                             | 0,1 to 320 kA;                     |
|     |                                       |                                |              |             | - thermal withstand current                                    | 0,1 to 120 kA;                     |
|     |                                       |                                |              |             | - resistance of safety conductor                               | 1 $\mu\Omega$ to 2000 $\Omega$     |
| 240 | COST 1222 8 8 5                       | Line nin noraclain and alars   | 22 42 10 110 | 8546 200000 | Chaoling of construction Mass Mart                             | Compliant/                         |
| 342 | 0051 1252 8 0.5                       | insulators for voltage 1 to 25 | 23.43.10.110 | 0040 209900 | ing Montage  | noncompliant                       |
|     |                                       | LV                             | 23.17.23.000 |             | - geometrical dimensions                                       | 1 to 5000 mm                       |
|     |                                       |                                |              |             | - geometrical unicipions                                       | 1 to 10 000 kg                     |
|     |                                       |                                |              |             | - creepage distance  | 1  to  5000  mm                    |
| 343 | GOST 6490 §7.3.2                      | Line suspended plate           | 23.43.10.110 | 8546 209900 | Checking of construction. Mass. Mark-                          | Compliant/                         |

|     |                               |                               |              |             |                                       | On 61 pages, page 56 |
|-----|-------------------------------|-------------------------------|--------------|-------------|---------------------------------------|----------------------|
| 1   | 2                             | 3                             | 4            | 5           | 6                                     | 7                    |
|     |                               |                               |              |             |                                       |                      |
|     |                               | insulators                    | 23.19.25.000 |             | ing. Montage.                         | noncompliant         |
|     |                               |                               |              |             | - geometrical dimensions              | 1 to 5000 mm         |
|     |                               |                               |              |             | - mass                                | 1 to 10 000 kg       |
|     |                               |                               |              |             | - creepage distance                   | 1 to 5000 mm         |
| 344 | GOST 12670 §§6.16; 6.20       | Porcelain plate insulators    | 23.43.10.110 | 8546 209900 | Checking of construction. Mass. Mark- | Compliant/           |
|     |                               | _                             | 23.19.25.000 |             | ing. Montage.                         | noncompliant         |
|     |                               |                               |              |             | - geometrical dimensions              | 1 to 5000 mm         |
|     |                               |                               |              |             | - mass                                | 1 to 10 000 kg       |
|     |                               |                               |              |             | - creepage distance                   | 1 to 5000 mm         |
| 345 | GOST 28856 §5.4               | Line suspended rod polymer    | 23.43.10.110 | 8546 209900 | Checking of construction. Mass. Mark- | Compliant/           |
|     |                               | insulators                    | 23.19.25.000 |             | ing. Montage.                         | noncompliant         |
|     |                               |                               |              |             | - geometrical dimensions              | 1 to 5000 mm         |
|     |                               |                               |              |             | - mass                                | 1 to 10 000 kg       |
|     |                               |                               |              |             | - creepage distance                   | 1 to 5000 mm         |
| 346 | GOST R 55189 §8.6.1-8.6.4     | Line suspended rod polymer    |              |             | Checking of construction. Mass. Mark- | Compliant/           |
|     |                               | insulators                    |              |             | ing. Montage.                         | noncompliant         |
|     |                               |                               |              |             | - geometrical dimensions              | 1 to 5000 mm         |
|     |                               |                               |              |             | - mass                                | 1 to 10 000 kg       |
|     |                               |                               |              |             | - creepage distance                   | 1 to 5000 mm         |
| 347 | GOST 433 §§4.2.1; 4.6         | Power cables with rubber      | 27.32.13.110 | 8544        | Checking of construction. Mass. Mark- | Compliant/           |
|     |                               | insulation                    |              |             | ing. Montage.                         | noncompliant         |
|     |                               |                               |              |             | - geometrical dimensions              | 1 to 5000 mm         |
|     |                               |                               |              |             | - mass                                | 1 to 10 000 kg       |
|     |                               |                               |              |             | - creepage distance                   | 1 to 5000 mm         |
|     |                               |                               |              |             |                                       |                      |
| 348 | GOST R 53769 §§8.2.1;8.8;     | Power cables with plastic     | 27.32.13.110 | 8544        | Checking of construction. Mass. Mark- | Compliant/           |
|     | 8.8.1; 8.8.2                  | insulation for rated voltage  |              |             | ing. Montage.                         | noncompliant         |
|     |                               | 0,66; 1 and 3 kV              |              |             | - geometrical dimensions              | 1 to 5000 mm         |
|     |                               |                               |              |             | - mass                                | 1 to 10 000 kg       |
|     |                               | _                             |              |             | - creepage distance                   | 1 to 5000 mm         |
| 349 | GOST R 53769 §§8.3.2.1; 8.3.4 |                               |              |             | Insulation resistance.                | Compliant/           |
|     |                               |                               |              |             | Power-frequency voltage test          | noncompliant         |
|     |                               |                               |              |             |                                       | 1 κΩ to 70 GΩ        |
|     |                               |                               |              |             |                                       | 0,5 to 5 κΩ          |
| 350 | GOST 31947 §§8.2.1; 8.2.2;    | Wires and cables for electri- | 27.32.13.110 | 8544        | Checking of construction. Mass. Mark- | Compliant/           |
|     | 8.3.4; 8.8.1; 8.8.2           | cal installations for rated   |              |             | ing. Montage.                         | noncompliant         |
|     |                               | voltage to 450/750 V includ-  |              |             | - geometrical dimensions              | 1 to 5000 mm         |
|     |                               | ing                           |              |             | - mass                                | 1 to 10 000 kg       |
|     |                               |                               |              |             | - creepage distance                   | 1 to 5000 mm         |

|     |                              |                              |              |      |  | On 61 pages, page 57          |
|-----|------------------------------|------------------------------|--------------|------|--|-------------------------------|
| 1   | 2                            | 3                            | 4            | 5    | 6  | 7                             |
|     |                              |                              |              |      |  |                               |
| 351 | GOST 31947 §§8.3.1; 8.3.2;   |                              |              |      | Insulation resistance.                     | Compliant/                    |
|     | 8.3.4                        |                              |              |      | Power-frequency voltage test               | noncompliant                  |
|     |                              |                              |              |      |  | 1 κΩ to $70$ GΩ               |
|     |                              |                              |              |      |  | 0,5 to 5 κΩ                   |
| 352 | GOST 18410 §§4.2.1; 4.9      | Power cables with impreg-    | 27.32.13.110 | 8544 | Checking of construction. Mass. Mark-      | Compliant/                    |
|     |                              | nated paper insulation       |              |      | ing. Montage.                              | noncompliant                  |
|     |                              |                              |              |      | - geometrical dimensions                   | 1 to 5000 mm                  |
|     |                              |                              |              |      | - mass                                     | 1 to 10 000 kg                |
|     |                              |                              |              |      | - creepage distance                        | 1 to 5000 mm                  |
| 353 | GOST 18410 §4.3.1            |                              |              |      | Measurement of electrical resistance to    | Compliant/                    |
|     | ~                            |                              |              |      | DC current                                 | noncompliant                  |
|     |                              |                              |              |      |  | 1 μΩ to 2000 Ω                |
| 354 | GOST 18410 §§4.3.2; 4.3.3    |                              |              |      | Insulation resistance.                     | Compliant/                    |
|     |                              |                              |              |      | Power-frequency voltage test               | noncompliant                  |
|     |                              |                              |              |      |  | 1 к $\Omega$ to 70 G $\Omega$ |
|     |                              |                              |              |      |  | 0,5 to 5 κΩ                   |
| 355 | GOST 16442 §§5.2.1; 5.6; 5.9 | Power cables with plastic    | 27.32        | 8544 | Checking of construction. Mass. Mark-      | Compliant/                    |
|     |                              | insulation to 6 kV           |              |      | ing. Montage.                              | noncompliant                  |
|     |                              |                              |              |      | - geometrical dimensions                   | 1 to 5000 mm                  |
|     |                              |                              |              |      | - mass                                     | 1 to 10 000 kg                |
|     |                              |                              |              |      | - creepage distance                        | 1 to 5000 mm                  |
| 356 | GOST 16442 §§5.3.2; 5.3.3    |                              |              |      | Insulation resistance.                     | Compliant/                    |
|     |                              |                              |              |      | Power-frequency voltage test               | noncompliant                  |
|     |                              |                              |              |      |  | 1 κΩ to 70 GΩ                 |
|     |                              |                              |              |      |  | 0,5 to 5 κΩ                   |
| 357 | GOST 16442 §5.3.1, 5.3.2     |                              |              |      | Temperature rise tests with rated current: | Passed / failed               |
|     |                              |                              |              |      | - current                                  | 1 to 20 000 A                 |
|     |                              |                              |              |      | - temperature rise                         | 1 to $300^{\circ}$            |
|     |                              |                              |              |      | - measurement of resistance                | 1 $\mu$ Ω to 2000 Ω           |
| 358 | GOST 16441 §5.3              | Oil-filled cables for AC     | 27.32.13     | 8544 | Checking of construction. Mass. Mark-      | Compliant/                    |
|     |                              | voltage 110-500 kV           |              |      | ing. Montage.                              | noncompliant                  |
|     |                              |                              |              |      | - geometrical dimensions                   | 1 to 5000 mm                  |
|     |                              |                              |              |      | - mass                                     | 1 to 10 000 kg                |
|     |                              |                              |              |      | - creepage distance                        | 1 to 5000 mm                  |
| 359 | GOST 31996 §10.10            | Power cables with plastic    | 27.32.13     | 8544 | Short-time withstand tests:                | Passed / failed               |
|     |                              | insulation for rated voltage |              |      | - electrodynamic withstand current         | 0,1 to 320 kA;                |
|     |                              | to 3 kV                      |              |      | - thermal withstand current                | 0,1 to 120 kA;                |
|     |                              |                              |              |      | - temperature rise                         | 1 to 300                      |
| 360 | GOST R 55025 §8.3.1;         | Power cables with plastic    | 27.32.14     | 8544 | Measurement of electrical resistance to    | Compliant/                    |

|     |                                       | insulation for rated voltage 6        |          |      | DC current                                 | noncompliant                       |
|-----|---------------------------------------|---------------------------------------|----------|------|--|------------------------------------|
|     |                                       | to 35 kV including                    |          |      |  | 1 $\mu\Omega$ to 2000 $\Omega$     |
| 361 | GOST R 53769 §8.3.1;                  | Power cables with plastic             | 27.32.14 | 8544 | Measurement of electrical resistance to    | Compliant/                         |
|     |                                       | insulation for rated voltage          |          |      | DC current                                 | noncompliant                       |
|     |                                       | 0,66; 1 and 3 kV                      |          |      |  | $1 \ \mu\Omega$ to $2000 \ \Omega$ |
| 362 | GOST R IEC 60840 §§ 8.5, 10.5,        | Power cables with extruded            | 27.32.14 | 8544 | Temperature rise tests with rated current: | Passed / failed                    |
|     | Annex A                               | insulation and fittings to            |          |      | - current                                  | 1 to 20 000 A                      |
|     |                                       | them for rated voltage above          |          |      | - temperature rise                         | 1 to $300^{\circ}$ C               |
|     |                                       | 30 kV up to 150 kV                    |          |      | - measurement of resistance                | 1 μΩ to 2000 Ω                     |
| 363 | GOST R IEC 60840 Annex A              |                                       |          |      | Short-time withstand tests:                | ·                                  |
|     |                                       |                                       |          |      | - electrodynamic withstand current to      | Passed / failed                    |
|     |                                       |                                       |          |      | 320 kA;                                    |                                    |
|     |                                       |                                       |          |      | - thermal withstand current to 120 kA;     | Passed / failed                    |
|     |                                       |                                       |          |      | - temperature rise                         | 1 to $300^{\circ}$ C               |
|     |                                       |                                       |          |      | I I I I I I I I I I I I I I I I I I I      |                                    |
| 364 | GOST R IEC 62067 §10.5,               | Power cables with extruded            | 27.32.14 | 8544 | Temperature rise tests with rated current: | Compliant/                         |
|     | Annex A                               | insulation and fittings to            |          |      | 1  | noncompliant                       |
|     |                                       | them for rated voltage above          |          |      | - current                                  | 10 to 20 000 A                     |
|     |                                       | 150 kV up to 500 kV                   |          |      | - temperature rise                         | 1 to $300^{\circ}$ C               |
|     |                                       | I I I I I I I I I I I I I I I I I I I |          |      | - measurement of resistance                | 1 $\mu\Omega$ to 2000 $\Omega$     |
|     |                                       |                                       |          |      |  |                                    |
| 365 | GOST R IEC 62067 Annex A              |                                       |          |      | Short-time withstand tests:                | Passed / failed                    |
|     |                                       |                                       |          |      | - electrodynamic withstand current         | 0,1 to 320 kA;                     |
|     |                                       |                                       |          |      | - thermal withstand current                | 0,1 to 120 kA;                     |
|     |                                       |                                       |          |      | - temperature rise                         | 1 to $300^{\circ}$ C               |
|     |                                       |                                       |          |      | r · · · · · · · · · ·                      |                                    |
| 366 | GOST 24334 §5.3.2                     | Power cables for non-                 | 27.32.13 | 8544 | Requirements to temperature rise:          | Passed / failed                    |
|     | , , , , , , , , , , , , , , , , , , , | stationary laying                     |          |      | - current                                  | 10 to 20 000 A                     |
|     |                                       |                                       |          |      | - temperature rise                         | 1 to $300^{\circ}$ C               |
|     |                                       |                                       |          |      | Measurement of electrical resistance to    | 1 μΩ to 2000 Ω                     |
|     |                                       |                                       |          |      | DC current                                 |                                    |
| 367 | GOST 23981 §§5.1, 5.2                 | Cable tips                            | 27.32.13 | 8544 | Checking of construction. Mass. Mark-      | Compliant/                         |
|     |                                       |                                       |          |      | ing. Montage.                              | noncompliant                       |
|     |                                       |                                       |          |      | - geometrical dimensions                   | 1 to 5000 mm                       |
|     |                                       |                                       |          |      | - Checking of marking                      |                                    |
| 368 | GOST 23981 §§5.6                      | ]                                     |          |      | Temperature rise tests with rated current: | Compliant/                         |
|     |                                       |                                       |          |      |  | noncompliant                       |
|     |                                       |                                       |          |      | - current                                  | 10 to 20 000 A                     |
|     |                                       |                                       |          |      | - temperature rise                         | 1 to 300 <sup>0</sup> C            |

|     |                              |                               |              |             |   | On 61 pages, page 59             |
|-----|------------------------------|-------------------------------|--------------|-------------|---|----------------------------------|
| 1   | 2                            | 3                             | 4            | 5           | 6   | 7                                |
|     |                              |                               |              |             |   |                                  |
|     |                              |                               |              |             | - measurement of resistance               | 1 μΩ to 2000 Ω                   |
| 369 | STO 56947007-29.060.50.015-  | Lightning protection cable    | 27.31.12.120 | 8544        | Short-time withstand tests:               | Passed / failed                  |
|     | 2008 §11.7                   | with built-in optical cable,  |              | 8544 70 000 | - electrodynamic withstand current        | 0,1 to 320 kA;                   |
|     |                              | lightning protection cable    |              |             | - thermal withstand current               | 0,1 to 120 kA;                   |
|     |                              |                               |              |             | - temperature rise                        | 1 to to $300^{\circ}$ C          |
| 370 | STO 56947007-29.060.50.015-  |                               |              |             | Withstand to DC component of lightning    | Passed / failed                  |
|     | 2008 §11.8                   |                               |              |             | current                                   | 1 to 300 Q                       |
| 371 | GOST 13781.0 Section 6       | Couplings for power cables    | 27.90.33.110 | 8544        | Requirements to temperature rise          | Passed / failed                  |
|     |                              | for voltage to 35 kV includ-  |              |             | - temperature rise                        | 1 to $300^{\circ}$ C             |
| 372 | GOST 13781.0 §6.11           |                               |              |             | Short-time withstand tests:               | Passed / failed                  |
|     |                              |                               |              |             |   |                                  |
|     |                              |                               |              |             | - electrodynamic withstand current        | 0,1 to 320 kA;                   |
|     |                              |                               |              |             | - thermal withstand current               | 0,1 to 120 kA;                   |
|     |                              |                               |              |             | - temperature rise                        | 1 to to $300^{\circ}$ C          |
|     |                              |                               |              |             |   |                                  |
| 373 | GOST R 52266 §7.6.1; 7.6.3,  | Optical cables                | 27.31.12.120 | 8544 70 000 | Checking of construction and              |                                  |
|     | 7.6.2                        |                               |              |             | consructive dimensions.                   | Compliant/                       |
|     |                              |                               |              |             | Checking of geomethric dimensions         | noncompliant                     |
|     |                              |                               |              |             | Checking of serviceability of OF.         | Compliant/                       |
|     |                              |                               |              |             |   | noncompliant                     |
|     |                              |                               |              |             | Checking of absence of breakes conduc-    | Compliant/                       |
|     |                              |                               |              |             | tors and contacts between them.           | noncompnant                      |
| 374 | GOST R 52266 §7.3.           |                               |              |             | Measurement of damping factor             | Compliant/                       |
|     |                              |                               |              |             |   | noncompliant                     |
|     |                              |                               |              |             |   | 0,05 dB/dB                       |
| 375 | GOST R 52266 §7.8.1; §7.8.3; | -                             |              |             | Electrical resistance of protective hose. | Compliant/                       |
|     | §7.8.4                       |                               |              |             | Electrical Insulation resistance of cur-  | noncompliant                     |
|     |                              |                               |              |             | rent-carrying conductors.                 | $1 \ \mu\Omega$ to 2000 $\Omega$ |
|     |                              |                               |              |             | Measurement of electrical resistance of   |                                  |
|     |                              |                               |              |             | conductors to DC current                  |                                  |
| 376 | GOST R 12.4.234 §6.18        | Materials and special cloth-  | 13.10        | 5208, 5209, | Withstand to thermal exposure of electric | 1 to 100 cal/sm <sup>2</sup>     |
|     |                              | ing for protection against    | 13.20        | 5210, 5211, | arc                                       | Passed / failed                  |
|     |                              | thermal risks of electric arc | 13.91        | 551513,     |   |                                  |

| 1   | 2   | 3   | 4              | 5   | 6  | 7   |
|-----|---|---|----------------|---|--|---|
| 377 | GOST 3811                                       |   | 13.92<br>13.95 | 551522,<br>55162400,                            | Definition of surface density of materials (calculated)  | -   |
|     |   |   | 13.96<br>13.99 | 5512, 5513,<br>5514, 5515,<br>5516, 6201.       |  |   |
|     |   |   | 14.12<br>14.13 | 62011390,<br>62021390,                          |  |   |
|     |   |   | 14.14<br>14.39 | 62032911,<br>62032210,<br>62032280,<br>62032210 |  |   |
|     |   |   |                | 62032310,<br>62042310,<br>621149, 621139        |  |   |
| 378 | GOST R 54827 Section 25                         | Power transformers  | 27.11.4        | 8504 210000<br>8504 220000<br>8504 230000       | Short-time withstand tests and current<br>striking shocks.<br>0,1 to 208 kV  | Irms 0,1 to 70 kA<br>Idyn 0,1 to 180 kA<br>0,1 to 4 s<br>Compliant/<br>noncompliant |
| 379 | GOST R 52565 § 9.2.6                            | AC current circuit-breakers<br>for voltage 3 to 750 kV;<br>Sealed bushings  | 27.12.10.110   | 8535 210000<br>8535 290000                      | Mechanical performance tests with the<br>combined action of wire tension and<br>wind load:<br>0 to 10000 N           | Compliant/<br>noncompliant  |
| 380 | GOST R 52726 § 8.5.6                            | AC current disconnectors<br>and earthing switches for<br>voltage above 1 kV | 27.12.10.120   | 8535 300000                                     | Operation with application of rated static<br>mechanical load to terminals:<br>0 to 10000 N                          | Compliant/<br>noncompliant  |
| 381 | GOST R 52725 § 8.2                              | Surge arresters with spark<br>gaps;<br>Non-linear surge arresters           | 27.12.10.130   | 8535 400000                                     | Tests of compliance to safety requirements:<br>0 to 1 $\Omega$ ;<br>0 to 300 mm                                      | Compliant/<br>noncompliant  |
| 382 | GOST IEC 61439-6 § 10.2.3.1,<br>10.2.102, 10.10 | Magistral and distributive busducts   | 27.32.13.199   | 8544  | Requirements to temperature rise tests<br>and overload currents:<br>up to 12 kA<br>up to 300 °C<br>up to 1000 cycles | Passed / failed   |
| 383 | GOST IEC 61439-6 § 10.5.2,<br>10.5.3, 10.11     | Magistral and distributive<br>busducts                                      | 27.32.13.199   | 8544  | Requirements to short-time withstand<br>tests:<br>Irms = 125 kA<br>Idyn = 320 kA                                     | Passed / failed   |
| 384 | GOST 10693-81 § 6.12                            | Sealed bushings   | 27.90.12.120   | 8546 900000                                     | Tests for mechanical wearing and canti-  | Compliant/  |

| 1   | 2                        | 3                             | 4            | 5           | 6                                       | 7             |  |  |  |  |
|-----|--------------------------|-------------------------------|--------------|-------------|---|---------------|--|--|--|--|
|     |                          |                               |              |             |   |               |  |  |  |  |
|     |                          |                               |              |             | lever loads:                            | noncompliant  |  |  |  |  |
|     |                          |                               |              |             | 0 to 10000 N                            |               |  |  |  |  |
| 385 | GOST R 55187-2012 § 9.19 | Sealed bushings               | 27.90.12.120 | 8546 900000 | Tests for mechanical wearing and canti- | Compliant/    |  |  |  |  |
|     |                          |                               |              |             | lever loads:                            | noncompliant  |  |  |  |  |
|     |                          |                               |              |             | 0 to 10000 N                            |               |  |  |  |  |
| 386 | GOST R ISO 6330          | Materials and special cloth-  | 13.2         | 5208; 5209  | Performing of washing and drying:       | Performed/    |  |  |  |  |
|     |                          | ing for protection:           | 13.9         | 5210; 5211  | up to 1000 cycles                       | not performed |  |  |  |  |
|     |                          | - against thermal risks of    | 14.12        | 5515130000  | up to 2 kg                              |               |  |  |  |  |
|     |                          | electric arc;                 | 14.13        | 5515220000  |   |               |  |  |  |  |
|     |                          | - against non-ionizing emis-  | 14.14        | 5516240000  |   |               |  |  |  |  |
|     |                          | sions;                        | 14.19        | 5512; 5513  |   |               |  |  |  |  |
|     |                          | - against shock of electric   | 14.3         | 5514; 5515  |   |               |  |  |  |  |
|     |                          | current;                      | 14.31        | 5516; 6201  |   |               |  |  |  |  |
|     |                          | - against exposures of static | 14.39        | 6201139000  |   |               |  |  |  |  |
|     |                          | electricity;                  |              | 6202139000  |   |               |  |  |  |  |
|     |                          | - against mechanical expo-    |              | 6203291100  |   |               |  |  |  |  |
|     |                          | sures;                        |              | 6203221000  |   |               |  |  |  |  |
|     |                          | - against general industrial  |              | 6203228000  |   |               |  |  |  |  |
|     |                          | pollutions;                   |              | 6203231000  |   |               |  |  |  |  |
|     |                          | - against heat and flame;     |              | 6204231000  |   |               |  |  |  |  |
|     |                          | - against high temperatures,  |              | 6211490000  |   |               |  |  |  |  |
|     |                          | low temperatures and heat     |              | 6211390000  |   |               |  |  |  |  |
|     |                          | emissions;                    |              |             |   |               |  |  |  |  |
|     |                          | - others.                     |              |             |   |               |  |  |  |  |

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Stamp