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PRILOGA K AKREDITACIJSKI LISTINI *Annex to the accreditation certificate*

št./no. LP-063

1 AKREDITIRANI ORGAN / *Accredited body*

Elektroinštitut Milan Vidmar, Inštitut za elektrogospodarstvo in elektroindustrijo

Laboratorij OVENO, Laboratorij OOK

Hajdrihova 2, 1000 Ljubljana

2 STANDARD

SIST EN ISO/IEC 17025:2005

3 OBSEG AKREDITACIJE / *Scope of accreditation*

V okviru te akreditacijske listine Slovenska akreditacija priznava akreditiranemu organu usposobljenost za opravljanje naslednjih dejavnosti: / *SA hereby acknowledges the accredited body as being competent for performing the following activities:*



3.1 Skrajšan opis obsega akreditacije / A short description of the scope

Preskušanje na področjih (klasifikacija po A45):

Testing in the field of (classification according to SA document A45):

- Neionizirna sevanja (2.10). Elektromagnetna sevanja / Nonionizing radiation (2.10)-
Electromagnetic radiation
- Elektrotehnika (2.03) – Elektromagnetna združljivost- Electrotechnic (2.03) –
Electromagnetic compatibility
- Akustika in vibracije (2.01): Hrup / Acoustics and vibration (2.01): Noise
- Drugo (2.14) - Varstvo okolja (emisije snovi v zrak / Other (2.14) - Environmental protection
(stationary source emissions)

3.2 Podroben opis obsega akreditacija / Detailed scope of accreditation

3.2.1 Laboratorij OVENO

Tabela 1-Preskušanje na terenu /

Table 1 - Testing on site

Področje preskušanja (klasifikacija po A45): Opis (šifra) Field of testing (classification according to SA document A45): Description (code) Neionizirna sevanja (2.10). Elektromagnetna sevanja Nonionizing radiation (2.10)- Electromagnetic radiation				
Št. No.	Oznaka standarda ali nestandardne preskusne metode Reference to standard or non-standard testing method	Naslov standarda ali nestandardne preskusne metode in morebitne navezave na druge standarde ali metode Title of standard or non-standard testing method and eventual relations to other standards or methods	Območje preskušanja; Negotovost rezultata preskušanja (kjer je to pomembno) Range of testing; Uncertainty of the result of testing (where relevant)	Materiali; proizvodi Materials; products
1	SIST ENV 50166-1:1995 (razveljavljen)	Human exposure to electromagnetic fields Low frequency (0 HZ to 10 kHz)	5 Hz – 10 kHz	Visokonapetostni daljnovodi, transformatorske postaje, elektrarne, transformatorji in električna oprema HV power lines, power substations, power plants, transformers and electric equipment
2	IEEE Std 644-1987 (z omejitvijo/ with limitation)	IEEE standard procedures for measurement of power frequency electric and magnetic fields from AC power lines Razen točk/except clauses: 4.3 Calibration of Electric Field Strength Meters 6.3 Calibration of Magnetic Field Strength Meters	5 Hz – 30 kHz	
3	IEEE Std 644-1994 (z omejitvijo/ with limitation)	IEEE standard procedures for measurement of power frequency electric and magnetic fields from AC power lines Razen točk/except clauses: 4.3 Calibration of Electric Field Strength Meters 6.3 Calibration of Magnetic Field Strength Meters	5 Hz – 30 kHz	



Področje preskušanja (klasifikacija po A45): Opis (šifra) Field of testing (classification according to SA document A45): Description (code)				
Neionizirna sevanja (2.10). Elektromagnetna sevanja Nonionizing radiation (2.10)- Electromagnetic radiation				
Št. No.	Oznaka standarda ali nestandardne preskusne metode Reference to standard or non-standard testing method	Naslov standarda ali nestandardne preskusne metode in morebitne navezave na druge standarde ali metode Title of standard or non-standard testing method and eventual relations to other standards or methods	Območje preskušanja; Negotovost rezultata preskušanja (kjer je to pomembno) Range of testing; Uncertainty of the result of testing (where relevant)	Materiali; proizvodi Materials; products
4	SIST IEC 61786: 2005 (z omejitvijo/ with limitation)	Merjenje nizkofrekvenčnih elektromagnetnih polj z vidika izpostavljenosti ljudi – Posebne zahteve za instrumente in napotki za merjenje Measurement of low-frequency magnetic and electric fields with regard to exposure of human beings – Special requirements for instruments and guidance for measurements Razen točk/except clauses: 5.2 Calibration 6.2 Calibration	Frekvenčno območje: Frequency range: 15 Hz – 9 kHz	Visokonapetostni daljnovodi, transformatorske postaje, elektrarne, transformatorji in električna oprema HV power lines, power substations, power plants, transformers, and electric equipment

Tabela 2-Preskušanje na terenu /
Table 2 - Testing on site

Področje preskušanja (klasifikacija po A45): Opis (šifra) - Ožje področje Field of testing (classification according to SA document A45): Description (code) - Detail				
Elektrotehnika (2.03) – Elektromagnetna združljivost Electrotechnic (2.03) – Electromagnetic compatibility				
Št. No.	Oznaka standarda ali nestandardne preskusne metode Reference to standard or non-standard testing method	Naslov standarda ali nestandardne preskusne metode in morebitne navezave na druge standarde ali metode Title of standard or non-standard testing method and eventual relations to other standards or methods	Območje preskušanja; Negotovost rezultata preskušanja (kjer je to pomembno) Range of testing; Uncertainty of the result of testing (where relevant)	Materiali; proizvodi Materials; products
5	SIST EN 61000-4-12:1997 (z omejitvijo/ with limitation) SIST EN 61000-4-12:1997 /A1:2002 modificirana/ modified	Electromagnetic compatibility (EMC) - Part 4: Testing and measurement techniques - Section 12: Oscillatory waves immunity test - Basic EMC publication (IEC 1000-4-12:1995) + Amendment 1 (IEC 61000-4-12:1995/A1:2000) Samo / only asymmetric over-voltage testing: considering SIST EN 61000-4-4:2005 Electromagnetic compatibility (EMC) - Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test (IEC 61000-4-4:2004) Samo točka / only clause 7.3. Test setup for post-installation tests Post-installation measuring of ring waves and damped oscillatory waves during switching of HV or MV or LV disconnectors and circuit-breakers	Frekvenčno območje: do 100 MHz Frequency range: up to 100 MHz	Sekundarna oprema v visokonapetostnih, srednjenapetostnih in nizkonapetostnih transformatorskih postajah, elektrarnah Secondary equipment in HV, MV and LV power substations, power plants



Tabela 3-Preskušanje na terenu /
Table 3 - Testing on site

Področje preskušanja (klasifikacija po A45): Opis (šifra) - Ožje področje Field of testing (classification according to SA document A45): Description (code) - Detail Akustika in vibracije (2.01): Hrup Acoustics and vibration (2.01): Noise				
Št. No.	Oznaka standarda ali nestandardne preskusne metode Reference to standard or non-standard testing method	Naslov standarda ali nestandardne preskusne metode in morebitne navezave na druge standarde ali metode Title of standard or non-standard testing method and eventual relations to other standards or methods	Območje preskušanja; Negotovost rezultata preskušanja (kjer je to pomembno) Range of testing; Uncertainty of the result of testing (where relevant)	Materiali; proizvodi Materials; products
6	SIST ISO 1996-1,2,3:1996	Akustika - Opis in merjenje hrupa v okolju - 1. del: Osnovne količine in postopki, 2. del: Zbiranje podatkov za potrebe prostorskega planiranja, 3. del: Uporaba pri mejnih vrednostih hrupa <i>Acoustics - Description and measurement of environmental noise - Part 1: Basic quantities and procedures, Part 2: Acquisition of data pertinent to land use, Part 3: Application to noise limits</i>	Območje merjenja: Range of measurement: 26 – 130 dBA Frekvenčno območje: Frequency range: 20 – 20.000 Hz	Hrup v okolju <i>Environmental noise</i>
7	SIST ISO 9613-2:1997	Akustika - Slabljenje zvoka pri širjenju na prostem - 2. del: Splošna metoda za računanje <i>Acoustics - Attenuation of sound during propagation outdoors - Part 2: General method of calculation</i>		Hrup v okolju <i>Environmental noise</i>

3.2.2 Laboratorij OOK

Tabela 4-Preskušanje na terenu /
Table 4 - Testing on site

Področje preskušanja (klasifikacija po A45): Opis (šifra) Field of testing (classification according to SA document A45): Description (code) Drugo (2.14) - Varstvo okolja (emisije snovi v zrak, zunanji zrak) / Other (2.14) -Environmental protection (stationary source emissions, ambient air)				
Št. No.	Oznaka standarda ali nestandardne preskusne metode Reference to standard or non-standard testing method	Naslov standarda ali nestandardne preskusne metode in morebitne navezave na druge standarde ali metode Title of standard or non-standard testing method and eventual relations to other standards or methods	Območje preskušanja; Negotovost rezultata preskušanja (kjer je to pomembno) Range of testing; Uncertainty of the result of testing (where relevant)	Materiali; proizvodi Materials; products
8	SIST ISO 7935:1996	Emisije nepremičnih virov - Ugotavljanje masne koncentracije žveplovega dioksida - Delovne karakteristike avtomatskih merilnih metod - <i>Stationary source emissions - Determination of the mass concentration of sulfur dioxide - Performance characteristics of automated measuring methods</i>	SO ₂ : 0-400 mg/m ³ 0-2000 mg/m ³	Odpadni plini / waste gases
9	SIST ISO 10849:1996	Emisije nepremičnih virov - Ugotavljanje masne koncentracije dušikovih oksidov - Delovne karakteristike avtomatskih merilnih sistemov - <i>Stationary source emissions - Determination of the mass concentration of nitrogen oxides - Performance characteristics of automated measuring systems</i>	NO _x : 0-400 mg/m ³ 0-2000 mg/m ³	Odpadni plini / waste gases



Področje preskušanja (klasifikacija po A45): Opis (šifra) Field of testing (classification according to SA document A45): Description (code) Drugo (2.14) - Varstvo okolja (emisije snovi v zrak, zunanji zrak) / Other (2.14) - Environmental protection (stationary source emissions, ambient air)				
Št. No.	Oznaka standarda ali nestandardne preskusne metode Reference to standard or non-standard testing method	Naslov standarda ali nestandardne preskusne metode in morebitne navezave na druge standarde ali metode Title of standard or non-standard testing method and eventual relations to other standards or methods	Območje preskušanja; Negotovost rezultata preskušanja (kjer je to pomembno) Range of testing; Uncertainty of the result of testing (where relevant)	Materiali; proizvodi Materials; products
10	SIST ISO 12039:2002	Emisije nepremičnih virov – Določevanje ogljikovega monoksida, ogljikovega dioksida in kisika – Delovne karakteristike in kalibracija avtomatskih merilnih sistemov / Stationary source emissions – Determination of carbon monoxide, carbon dioxide and oxygen – Performance characteristics and calibration of automated measuring systems	CO: 0-250 mg/m ³ 0-1250 mg/m ³ O ₂ : 0-25 vol %	Odpadni plini / waste gases
11	ISO 10498:2004	Ambient air -- Determination of sulfur dioxide - - Ultraviolet fluorescence method	SO ₂ : 0-1 ppm 0-5 ppm	zrak / air
12	SIST ISO 9096:2003	Emisije nepremičnih virov - Ročno določanje masne koncentracije trdnih delcev - Stationary source emissions – Manual determination of mass concentration of particulate matter	Prah/dust: 20-1000 mg/m ³	Odpadni plini / waste gases
13	SIST ISO 12141:2004	Emisije nepremičnih virov – Določevanje masne koncentracije trdnih delcev (prahu) v nizkih koncentracijah	skupni prah: 0-50 mg/m ³	odpadni plini / waste gases
14	VDI 2066 Part 10	Measurement of PM ₁₀ and PM _{2,5} emissions at stationary sources by impaction method	PM ₁₀ in PM _{2,5} : 1-50 mg/m ³	odpadni plini / waste gases
15	ASTM D 2156-94 (2003)	Standard Test Method for Smoke Density in Flue Gases from Burning Distillate Fuels	dimno število: 0-9	odpadni plini / waste gases
16	SIST EN 1911-1,2,3:1999 metoda B	Emisije nepremičnih virov – Ročna metoda določevanja HCL – 1. del, 2. del, 3. del	HCl: 1-5000 mg/m ³	odpadni plini / waste gases
17	VDI 2470 Blatt 1	Gaseous emission measurement; measurement of gaseous fluorine compounds; absorption method	HF: 0,1-200 mg/m ³	odpadni plini / waste gases
18	SIST EN 14385:2004 samo vzorčenje prahu/ sampling of dust only	Emisije nepremičnih virov – Določevanje celotne emisije As, Cd, Cr, Co, Cu, Mn, Ni, Pb, Sb, Tl in V		odpadni plini / waste gases
19	SIST ISO 10780:1996	Emisije nepremičnih virov: Meritev hitrosti in volumnskega pretoka plinskih tokov v odvodnikih	v: 2-48 m/s	odpadni plini / waste gases
20	SIST EN 12341:2000	Kakovost zraka – Določevanje frakcije PM ₁₀ ledbečih trdnih delcev	r > 2 µg/m ³ (mikrogram na kubični meter)	zrak



Opombe / Notes:

- V vseh točkah podrobnega obsega akreditacije, pri katerih v rubriki "**Območje** preskušanja; **Negotovost** rezultata preskušanja" ni navedenih podatkov, veljajo določila posameznih standardov oziroma nestandardnih preskusnih metod, ki se na to nanašajo.
In all columns of the scope of accreditation where the cells under "Range of measurement, testing; Uncertainty of the result of testing" are empty, the provisions of the relevant standards or non-standard testing methods should apply.
- V točkah podrobnega obsega akreditacije, pri katerih v rubriki "**Oznaka** standarda" ni navedena letnica izdaje standarda, se sklic nanaša na zadnjo (veljavno) izdajo standarda, kar jamči interni sistem sledenja in prilagajanja laboratorija spremembam.
In those columns of the scope of accreditation where the cells under "Reference" do not specify the year of issue of the standard, the latest (valid) standard should apply. This is assured by internal laboratory system of follow-up and adaptation to changes.
- V točkah podrobnega obsega akreditacije, pri katerih sta v rubriki "**Oznaka** standarda" navedeni dve ali več oznak standardov, se sklic v celoti nanaša na identične standarde.
In those columns of the scope of accreditation where the cells under "Reference" specify two or more codes of standards, the complete citation to identical standards should apply.




dr. Boštjan Godec
Direktor / Director