

ANNEX 6.1 VALIDATION OF FERIA DE MADRID ELECTRICAL INSTALLATION

1. INTRODUCTION

Feria de Madrid is, by law, a public place, and its electrical installations have been duly validated. This document seeks to provide the guidelines for the validation of the temporary electrical installations set up at the Exhibition Centre for different types of events, such as: Congresses, Shareholder's Meetings, Product Roll-Out, etc.

2. APPLICABLE REGULATION

The regulation applicable to this type of installations is described hereunder:

- The Low Voltage Electrotechnical Regulation adopted by Royal Decree 842/2002 of 22 August.
- The Regional Ministry of Finance and Technological Innovation, by Order 9344/2003 of 1 October, lays down the procedure for the application, commissioning and inspection of non-industrial, low voltage, electrical installations.
- The Directorate General for Industry, Energy and Mining, by the Resolution of 14 January 2004, establishes the official models for the Technical Design Report and Installation Certificate of the Autonomous Community of Madrid.

3. REGULATORY REQUIREMENTS

The installations for the abovementioned events are considered as temporary installations under the following two assumptions:

- Installations with 50 Kw maximum power (
- Installations with > 50 Kw maximum power

a) Installations with 50 Kw maximum power (

Once the installation is set up and checked according to the provisions laid down in section 3 of ITC.BT.05, the approved Low Voltage electrical installer shall submit the following documentation to the EICI (Industrial Inspection and Control Agency) :

- Official application form (Provided by the EICI upon submission of the documentation).
- Technical Design Report according to the official model (2 copies) Annex I.
- Installation Certificate with electrical installer's inspection (five copies). Annex II.
- User information dossier (two copies)
- Written proof of valid low voltage installer qualification.

The EICI shall validate and return to the installer four copies of the Installation Certificate and a copy of the Technical Report.

The EICI may inspect the installation if said provision is part of the predetermined sampling. The EICI shall contact the Approved Installer and the Project Supervisor to that effect.

b) Installations with > 50 Kw maximum power

Once the installation has been completed and the appropriate inspections conducted according to the provisions set forth in section 3 of the ITC BT 05, the approved Low Voltage installer shall submit the following documentation to the EICI:

- A project written and signed by a qualified person, and endorsed by the appropriate professional association (two copies).
- Official application form (Provided by the EICI upon submission of the documentation).
- Installation Certificate with electrical installer's inspection (five copies).
- User information dossier (two copies).
- Project Design and Construction Certificate (two copies).
- Written proof of valid low voltage installer qualification.
- Supplementary supporting documents of deviations, if any.

The EICI shall analyze all the abovementioned documentation, within 15 days maximum, ensuring that it complies with the regulations in force, and shall validate the Installation Certificate copies, returning four copies to the Approved Low Voltage Installer, of which two shall be for the installer proper and two for the property holder. Furthermore, a validated copy of the project shall be returned to the holder or his/her representative.

The EICI may inspect the installation if said provision is part of the predetermined sampling. The EICI shall contact the Approved Installer and the Project Supervisor to that effect.

4. RATES AND FEES

The EICI rates are set annually by The Directorate General for Industry, Energy and Mining establishes the annual rates of the EICI. Attached in Annex II.

The Directorate General for Industry, Energy and Mining establishes the fees for each installation, which are listed in Annex IV.

5. APPROVED EICIS

Annex V lists the approved EICIS for the Autonomous Community of Madrid.



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ANNEX I

LOW VOLTAGE

TECHNICAL DESIGN REPORT (1/6) AUTONOMOUS COMMUNITY OF MADRID

RECORD No. _____

Administrative information

INSTALLATION OWNER VAT No. _____

Name/Company _____

First Surname _____ Second Surname _____

Address _____

City _____ Postcode _____

LOCATION OF INSTALLATION

Address _____

City _____ Postcode _____

Usage _____

Technical Information

GENERAL INSTALLATION FEATURES

Voltage	V _____	Degree of Electrification	_____	_____
Report for (1)	Use of inst.	Premise area	m2	

CONNECTION (Per information provided by service provider)

Connection point (2) _____ Type (3) _____ Section _____ mm2 Material (4) _____

C.G.P. OR SECURITY C/C

Type _____ Base In. _____ A Cartridge In. _____ A

GENERAL POWER LINE

INDIVIDUAL LEAD

Section _____ mm2 Material (5) _____ Section _____ mm2 Material (5) _____

Master Power Switch (MPS)

Rated A	Power CutoffA	No. Indv. Leads
---------------	---------------------	-----------------

METERING MODULE

Type (7) _____ Position (6) _____

MAGNETOTHERMAL/DIFFERENTIAL PROTECTION

Main Auto. Cct Breaker _____ Diff. Circuit Breaker rated (A) / Sensitivity (mA) _____

GROUNDING

Type	Rods	Plates	Mesh	_____
Electrodes	Tie-line	_____ mm2	Protective conductor	_____ mm2

AUTHORIZED ELECTRICIAN'S REPORT

Name _____ Electrician certificate number _____

Street/square	City	Postcode	Telephone	No. _____
FAX _____	E-mail _____			

CERTIFIED TECHNICIAN'S REPORT

Name _____ Professional Assoc. Member No. _____

Street/square	City	Postcode	Telephone	No. _____
FAX _____	E-mail _____			
Professional Assoc.	_____			

Mr./Ms. _____, the undersigned, as the author of the Technical Design Report, hereby declares that the information provided herein complies with the provisions of the Low Voltage Electro-Technical Regulation (RD 842/2002).

_____, at _____ on _____ 200

Name and signature of electrician or qualified Technician

NOTES:		
(1) Installation N (New), A (Extension-Modification), CN (Change of Name), CT (Change of Voltage)	(3) C.T. (Transformation Centre), R.B.T. (Low Voltage System)	(6) In Centralisation Room. Indoors. Façade.
	(4) Overhead. Underground. Indoor	
(2) As per reference table in information folder	(5) Material, Cu (Copper), Al (Aluminium)	(7) Enveloping, panelable, stand-alone cabinet

TECHNICAL DESIGN REPORT (2/6) AUTONOMOUS COMMUNITY OF MADRID

TIE-LINE INSTALLATION LOAD FORECAST (Per ITC-BT-10)

No. of Storeys: No. of Housing Units per Storey: No. of Business Premises:

HOUSING:

Degree of Electrification	Type of Housing	Max. Estimated Power per Housing Type	No. Housing Units	Average Maximum Power	Simultaneity Coefficient	Total Load
Basic (Min. 5.75 kW) (Sup ≤ 160 m2)				kW	Table ITC-BT-10	kW
High (Min. 9.2 kW) (Sup > 160 m2)				kW	Equivalent to No. Housing Units	kW
Night Rate						
Estimated Housing Load (A):						<input type="text"/>

GENERAL SERVICES

Estimated Maximum Lift Power	Estimated Heating/Cooling Power	Estimated Pressure Equipment Power	Estimated Lighting Power	Estimated Pool Power	Estimated Miscellaneous Power (R.I.T.L.)	Total Estimated Power (Sum)
kW	kW	kW	kW	kW	kW	kW
Estimated General Services Load (B):						<input type="text"/>

GARAGE

Installation	Type	Estimated Minimum Power	Estimated Actual Power (X)	Total Area (Y)	Other System's Power (Z)	Total Power $Z+((X*Y)/1000)$
Garage (Min. 3.45 kW)	Natural Vent.	10 W/m2	W/m2	m2	kW	kW
	Forced Vent.	20 W/m2	W/m2	m2	kW	kW
Estimated Garage Load (C):						<input type="text"/>

BUSINESS PREMISES AND/OR OFFICES AND/OR FACTORIES

Installation	Estimated Minimum Power	Office or Business		Estimated Actual Power (X)	Total Area (Y)	Other System's Power (Z)	Total Power $N*[Z+((X*Y)/1000)]$
		Type	No. (N)				
Business Prem. (Min. 3.45 kW per Premise)	100 W/m2			W/m2	m2	kW	kW
				W/m2	m2	kW	kW
				W/m2	m2	kW	kW
Offices (Min. 3.45 kW Per Office)	100 W/m2			W/m2	m2	kW	kW
				W/m2	m2	kW	kW
				W/m2	m2	kW	kW
Factories (Min. 10.35 kW Per Premise)	125 W/m2			W/m2	m2	kW	kW
				W/m2	m2	kW	kW
				W/m2	m2	kW	kW
Estimated Loads for Business Premises and/or Offices and/or Factories (D):						<input type="text"/>	

OTHER INDUSTRIAL, AGRICULTURAL OR SERVICE FACILITIES

Name of the Facility	Estimated Lighting Power	Estimated Voltage Power	Estimated Power Other Facilities	Total Estimated Power (Sum)
	kW	kW	kW	kW
	kW	kW	kW	kW
	kW	kW	kW	kW
	kW	kW	kW	kW
Estimated Power other Industrial, Agricultural or Service facilities (E):				<input type="text"/>

ESTIMATED M.F.L. TOTAL LOAD (A+B+C+D+E)

BUDGET

Breakdown	Grounding Budget	Main Feeder Budget	Metering Point Budget	Indv. Leads Budget	Indoor Install. Budget	Misc. Budget	TOTAL
Materials	€	€	€	€	€	€	€
Labour	€	€	€	€	€	€	€
Total	€	€	€	€	€	€	€

**TECHNICAL DESIGN REPORT (3/6) AUTONOMOUS COMMUNITY OF MADRID
TECHNICAL INFORMATION SUMMARY**

TECHNICAL INFORMATION ON MAIN FEED LINE

MFL	Estimated Max. Power	Max. Admissible Power	Phases / Section	Material (Cu or Al)	Type of Insulation	Length	Voltage Drop	Protection
I	kW	kW	X mm ²			m	V	A
II	kW	kW	X mm ²			m	V	A

Voltage drop shall be 0.5% or 1%; conductors shall be single-pole copper or aluminium; insulation 0.6/1 kV. The line shall be routed through a tubing, closed rack or closed conduits as per ITC-BT-14. The Main Feed Line power may not exceed a 150 kW maximum, unless Electrical Cabinets are installed in the Metering Room.

TECHNICAL INFORMATION ON METERING POINTS AND PROTECTION

No. Connections: Single-phase Triphase < 15 kW Triphase < Power < 43.6 kW Triphase < 15 kW

----- LOCATION ----- No. of Storeys No. Meters / Centralisation

Ground Floor Mezzanine 1st Basement Every 6 Storeys Each Floor

Brand / Model:

Master Power Switch or Safety Fuse:	Rated Int.	Power Cutoff
	x A	x A

----- POSITION -----

Modular Centralisation Panel Centralisation Indoor Module CPM-Front Cabinet Miscellaneous

TECHNICAL INFORMATION ON INDIVIDUAL LEADS

Leads Type	No.	Estimated Max. Power	Admissible Max. Power	Phases / Section	Material (Cu or Al)	Type of Insulation	Maximum Voltage Drop	Safety Fuse
		kW	kW	X mm ²			V	A
		kW	kW	X mm ²			V	A
		kW	kW	X mm ²			V	A
		kW	kW	X mm ²			V	A

TECHNICAL INFORMATION ON GENERAL CONTROL AND PROTECTION DEVICES

Standard Lead	Phases / Section Ind. Supply Lead	ICP Cabinet Type		Main Automatic Circuit Breaker		Differential Circuit Breaker	
		29	36	Rated Intensity	Power Cutoff	Rated Intensity	Sensitivity
	x mm ²			x A	kA	x A	mA
	X mm ²			x A	kA	x A	mA
	X mm ²			x A	kA	x A	mA
	x mm ²			x A	kA	x A	mA

TYPE OF INSTALLATION			
(1) ITC-BT-20:	T.P.	With Protection Tube	(2) ITC-BT-26
	F.D.P.	Mounted Directly on Panel	
	ENTR	Buried	
	D.E.E.	Inserted Directly in Structure	
	AERO	Overhead	
	I.H.C.	Inside Cavities in Construction	
	C.P.	Under Protective Conduits	
	MOLD	Under Moulding	
	BANDJ	In Racks	
	C.E.P.	In Precast Electrical Conduits	
	E.T.F.	Inserted in Flexible Tube	
	E.T.C.	Inserted in Curvable Tube	
	S.T.C.	Surface in Curvable Tube	
S.T.R.	Surface in Rigid Pipe		
S.C.P.	Surface in closed Protective Conduit		
S.C.P.F.	Surface in Precast Conduits		



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Annex II

D.G.I.E.M LOGO		SEAL		
LOW VOLTAGE ELECTRICAL INSTALLATION CERTIFICATE				
OWNER				
SURNAMEN AND NAME OR COMPANY		ID NUMBER – VAT NO.		
ADDRESS (street or square and number)		P.C.		
CITY	PROVINCE	TELEPHONE	FAX E-mail	
REPRESENTATIVE (if appropriate)		ID NUMBER		
UTILITY COMPANY				
INSTALLATION FEATURES				
ADDRESS (street or square and number)	Gate	Bis	Stairs Floor Door	
CITY		P.C.		
MAX. ADMISSIBLE POWER(kW)	INSTALLED POWER(kW)	VOLTAGE V		
INSTALLER COMPANY				
SURNAMEN AND NAME OR COMPANY		AUTHORIZED COMPANY CERT. NO.		
INSTALLER COMPANY CATEGORY AND SPECIALTY		Basic Specialist		
ELECTRICIAN'S NAME		ELECTRICIAN CERT. NO.		
ADDRESS (street or square and number)		P.C.		
CITY	PROVINCE	TELEPHONE	FAX E-mail	
ELECTRICIAN'S CATEGORY AND SPECIALTY		Basic Specialist		
Technical Information				
GENERAL INSTALLATION FEATURES				
Voltage	V	Degree of Electrification		
Report for (1)	Use of inst.	Premise area	m ²	
CONNECTION (Per information provided by service provider)				
Connection point (2)	Type (3)	Section	Material (4)	
C.G.P. OR SECURITY C/C				
Type	Base In.	Cartridge In.	A A	
GENERAL POWER LINE		INDIVIDUAL LEAD		
Section	mm ² Material (4)	Section	mm ² Material (4)	
Master Power Switch (IGM)	I. Rated A	Power Cut kA	No. Ind. Leads	
METERING MODULE				
Type (6)	Position (5)			
MAGNETOTHERMAL/DIFFERENTIAL PROTECTION				
Main Automatic Circuit Breaker	A Differential Circuit Breaker rated (A) / Sensitivity (mA)			
GROUNDING				
Type	Rods	Plates	Mesh	
Electrodes	Tie-line	mm ²	Protective conductor mm ²	
INSTALLER COMPANY CERTIFICATION				
The undersigned authorized electrician or qualified certificate holder, whose name and number are provided hereinbefore, on behalf of the referenced installer company, certify that the installation referred to in the appropriate Technical Report/Project..... has been set up according to the applicable L.V.E.R., its complementary Technical instructions and specific regulations of the utility company, and has passed the inspection, as stated in this certificate.				
..... at, on of Mr./Ms. Authorized Electrician's Signature	MEASUREMENT CHECKS AND TESTING			
	1. Protection conductor continuity			Ω
	2. Grounding resistance			Ω
	3. Conductor insulation resistance			MΩ
	4. Floor and wall insulation resistance, if appropriate			KΩ
	5. Dielectric current (Mx)			mA
6. Phase frequency check, if appropriate			Favourable	
NOTES:				
..... at, on of Mr./Ms. Authorized Electrician's Signature	(1) Installation: N (New), A (Extension-Modification), CN (Change of Name), CT (Change of Voltage)		(4) Material: Cu (Copper), Al (Aluminium)	
	(2) C.T. (Transformation Centre), R.B.T. (Low Voltage System)		(5) In Centralisation Room; Indoors; Façade	
	(3) Overhead, Underground, Indoor		(6) Enveloping, panelable, stand-alone cabinet	

This report is issued exclusively for the purposes laid down in the Low Voltage Electro-Technical Regulation and complementary provisions, without implying compliance by the installation Owner of the requirements pursuant to the applicable legislation on the commissioning and signing of a power supply contract.

This information will be computer-processed or recorded with the consent of the subject, who is entitled to determine who will receive the information and for what purpose, and to request the accuracy of the information and ensure its correct use, with the derogations laid down in the applicable legislation. For any further information on this matter, please call the administrative information line at 012. If you would like to make any suggestions for improving this form, please contact the Consejería de la Presidencia, D.G. de Calidad de los Servicios y Atención al Ciudadano.



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ANNEX III

Low Voltage Outsourcing Rates

Description	with Project				with MTD			
	with preliminary inspection		without preliminary inspection					
	special	others	others	Single-family houses P > 50 kW				
Type of Basic Rate	1 A	1 B	1 C	1 D	2 A	2 B	2 C	2 D
TOTAL Cost €	377.77	302.78	52.90	47.17	22.68	25.55	16.96	2.62

Description

Type 1	Installations that require a Project A) and a preliminary inspection by the OCA, and a Backup Supply System if it is a place of Public Assembly. B) and a preliminary inspection by the OCA and are not Type 1,A. C) and do not require a preliminary inspection by the OCA. D) and do not require a preliminary inspection by the OCA (single-family houses P > 50 kW)
Type 2	Installations that require a Technical Design Report A) Non residential buildings B) Single-family houses P > 50 kW C) Installations of groups of housing units without individual facilities D) Condominiums Single-family houses. Does not share common walls with other buildings. Independent facilities Garage, pool, outdoor lighting, pumps (wells, etc.)

Rates

Formula for housing units.

$$\text{Type I Condominium rate} = \begin{matrix} 1.C \\ 2.C \end{matrix} + (n1 \times 2.D) + (n2 \times 0,4) \begin{matrix} \text{Type III} \\ \text{Type IV} \end{matrix}$$

For $n1 = 1 \Rightarrow 1.C / 2.C = 0$
For $1 < n1 \leq 14 \Rightarrow n1 = 14$

$$\text{Type II Single-family housing rate} = \begin{matrix} 1.D \\ 2.B \end{matrix} + (n2 \times 0,4) \begin{matrix} \text{Type III} \\ \text{Type IV} \end{matrix}$$

$n1$ = Number of housing units

$n2$ = Number of independent facilities (Garage, pool, outdoor lighting, pumps, etc.)

Formula for with Project or MTD except housing units.

$$\text{Type III Rate for with Project facilities except housing units} = \begin{matrix} 1.A \\ 1.B \\ 1.C \end{matrix} + (0,9 \times P \text{ facil. in kW more than } 20)$$

$$\text{Type IV Rate for with MTD facilities, except housing units} = 2.A$$

Second or subsequent visits Starting from 180 € minimum to 50% of Initial Rate

VAT excluded Rates



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ANNEX IV

2007 RATES

INDUSTRIES AND PROJECTS	2007
Up to 3,005.06 €	46.93 €
Up to 6,010.12 €	83.83 €
Up to 30,050.61 €	150.84 €
Up to 60,101.21 €	217.86 €
Up to 120,202.42 €	234.21 €
From 120,202.43 € upwards	11.75 € x N
(N stands for total number of condominiums, each at 6,010,12 € or fraction)	

To calculate N, divide the investment in Euros by 6,010.12 and round up the coefficient to a whole number.

Most common rates

Housing certificate	12.53 €
Non housing certificate	58.65 €
Housing heating system	12.53 €
Non housing heating system	58.65
Water supply system - per connection	12.53 €
Certificates and copies	41.89 €
Permit - DCE	50.30 €
Examination fees	11.88 €
Lifts	33.51 €
Pressure equipment	33.51 €
Inspections	46.93 €
Change of name, transfer and checks	83.83 €
Refrigeration system register	33.51 €
X-rays	83.83 €



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ANNEX V

ADDRESSES OF ASORCO-MADRID MEMBERS INSPECTION OF LOW VOLTAGE INSTALLATIONS (Rev. 01.01.05)

A.I.C.

Avda. Betanzos, 64
28034 MADRID
Mr. Juan Vte. Langa Reyes

Phone 91-380.62.57
Fax: 96-391.02.77
jvlanga_aic@wanadoo.es

APPLUS-AGBAR CERTIFICACIÓN

Principe de Vergara, 108-7º planta
28002 MADRID
Mr. Manuel Reina

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ATISAE

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Mr. José Manuel del Castillo

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BUREAU VERITAS

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Mr. Javier Castells

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CUALICONTROL-ACI, S.A.

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INGENIERÍA DE GESTIÓN INDUSTRIAL, S.L. (INGEIN, S.L.)

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MAL/nah
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