

VALIDATION CRITERIA

CAE TRAINING REQUIREMENTS:

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1. PURPOSE

The purpose of this document is, on the one hand:

- Establish the training requirements in the field of occupational risk prevention that will be required of our collaborating companies and self-employed workers.

And, on the other:

- to establish criteria that will serve us to validate the preventive documentation presented by them through ATLAS as a computer application used for the management of documentation between EDP and contractor companies and self-employed workers, related to the Coordination of Business Activities.

This document establishes, and for each of the formations:

- its THEORETICAL CONTENT that serves EDP to validate the documentation provided by contractor companies and self-employed workers and, to all of them, to design the necessary training.
- the need for PRACTICAL TRAINING, required in those trainings in which this is stated in the document.
- the MINIMUM DURATION that each of the required training courses must have.
- RECYCLING, in those trainings in which it is considered necessary.

All this, without prejudice to the obligation to comply with the legal obligations in terms of occupational risk prevention that, in each case, are applicable to the activity subject to tender/contracted.

These training requirements in the field of occupational risk prevention will be made known to the contractor companies and self-employed workers offering within the bidding processes that are established, so that they are aware of what is going to be requested of them in the event that any of the training determined in the document is applicable to them. both at the beginning of the service and during its development.

In addition to the above, and to facilitate its use, the table of contents incorporated into the document in the previous edition has been improved, so that it allows a more agile localization of the different training criteria.

2. TABLE OF CONTENTS

2.1. FIRE EXTINGUISHING

FIRE EXTINGUISHING (DURATION 4 HOURS) THEORETICAL-PRACTICAL RECYCLING: 3 YEARS	
1. Legislation 2. Fire Basics 3. Classification of the different types of fires 4. Preventive measures 5. Fire extinguishing techniques 6. Extinguishing agents 7. Extinguishing equipment 8. Signage 9. Detection and alarm systems 10. Action in the event of fire 11. Practical exercises. Handling of extinguishers for type A and type B fires (use of chemical powder and carbon dioxide extinguishers) and/or water lines	

2.2. FIRE EXTINGUISHING (AELĒC)

FIRE EXTINGUISHING (AELĒC) (DURATION 4* HOURS) THEORETICAL-PRACTICAL RECYCLING: 3* YEARS	
The contents and entities that will deliver the training must be in accordance with those published in the "AELĒC Certified ORP Training Standard" and in particular for the training identified as "Firefighting Training" of the AELĒC standard. Detail that can be found on the AELĒC website (https://formacion.aelēc.es) IMPORTANT NOTE: * This information will be linked to the publications on the AELĒC website, with the website being relevant to what is indicated in this point if the data do not coincide.	Personnel HIRED by companies adhering to the AELĒC training standard

2.3. FIRST AID

FIRST AID (DURATION 4 HOURS) THEORETICAL-PRACTICAL RECYCLING: 3 YEARS	
1. Basic principles of first aid a. General First Aid Guidelines (PAS) b. Recognition of the injured person/victim (consciousness, breathing, pulse) i. Recognition of signs ii. Victim placement (safe postures, safety positions)	
2. Cardiorespiratory arrest a. Safety on stage b. Valuing awareness and breathing c. Opening the airway with the forehead-chin maneuver d. CPR maneuvers	
3. Specific actions a. Wounds and haemorrhages (recognition of typologies, including the presence of foreign bodies) b. Burns (electrical, chemical, and thermal) c. Trauma-fractures (immobilization) d. Poisoning e. Allergic reactions f. Urgency due to alterations in thermoregulation g. Choking. Heimlich maneuver.	

h. Electrocution
4. Transport of accident victims
5. Case studies:
a. Practical CPR exercises with mannequin
b. Practical cases with recognition of symptoms and choice of action measures according to the information received in the different phases
c. Transfer of an injured person by a worker

2.4. FIRST AID (AELĒC)

FIRST AID (AELĒC) (DURATION 4* HOURS) THEORETICAL-PRACTICAL RECYCLING: 3* YEARS	
APPLICATION COURSE A ->	
The contents and entities that will deliver the training must be in accordance with those published in the "AELĒC Certified ORP Training Standard" and in particular for the training identified as "AELĒC Standard First Aid Training". Detail that can be found on the AELĒC website (https://formacion.aelēc.es) IMPORTANT NOTE: * This information will be linked to the publications on the AELĒC website, with the website being relevant to what is indicated in this point if the data do not coincide.	Personnel HIRED by Companies adhering to the AELĒC training standard

2.5. SELF-PROTECTION PLANS

SELF-PROTECTION PLANS (DURATION 1 HOUR) THEORETICAL RECYCLING: 4 YEARS	
- General structure of the Self-Protection Plan/Emergency Plan: emergency organisation chart and general sequence of action in the event of fire - Specific missions of each designated manager: Emergency Manager, Control Centre, First Intervention Team and Alarm and Evacuation Team - Existing fire protection means at the site, location and functions - Preventive measures to avoid emergencies	Applicable to external personnel who are part of the intervention teams defined in our PAUs/PEIs

2.6. ELECTRICAL RISK 1

ELECTRICAL RISK 1 (DURATION 4 HOURS) THEORETICAL RECYCLING: 3 YEARS
Electrical risk overview: - General aspects of electrical installations - Voltage levels in an electrical installation. Power circuits. Force circuits. Control circuits - Identification of voltage levels in an electrical installation - Passive protection systems in electrical installations - R.D. 614/2001: Art. 4. Techniques and working procedures - Conditions for carrying out work on an electrical installation - Types of work in an electrical installation - Types of Electrical Accidents - Arc flash - Contact and current passage - Direct contact - Indirect contact - Effects of Current on the Human Body - Induction and static charge - Worker training

g. Types of work in electrical installations: information and qualification required

h. Working on voltage-free circuits

- Actions in the area of live work
- Actions in the area of proximity work
- Actions outside the work area in proximity

i. Techniques and work procedures used

2. Tension-free work

a. Description of the forms of action according to the type of installation: local and remote and different types of installations: aerial, underground, SF6, indoor air and outdoor

b. Concept of protected area and work area

c. Safety conditions for the application of the five golden rules in a protected area

- Disconnect or verify opening
- Prevent any possible feedback (interlock and lock)
- Verification of absence of voltage
- Grounding and shorting in a protected area

d. Safety conditions for the application of the five golden rules in a work area

- Verification of absence of voltage
- Grounding and shorting in a work area
- Protect against nearby live elements and establish safety signage to delimit the work area

e. Matching the protected area and the work area

f. Action in the event of the need for voltage replacement

g. Disclaimers

- Process and roles of participants
 - Petitioner and Applicant
 - Control Center
 - Order communication and registration process
 - Local operator
 - Discharge agent
 - Work Manager
 - Workers
- Actions at facility border points and at shared property facilities

3. Introduction to live work

a. Work in tension. Methods of working in tension:

- LV and HV contact method
- Potential method
- Remote method

b. Working procedures

c. Work in tension. Process and roles of participants

- Petitioner and Applicant
- Control Center
- Order communication and registration process
- Installation Manager
- Job Manager
- Workers

4. Work in proximity

a. General considerations. Preventive measures

b. Preparation procedures in close proximity work

c. REEX or manual line setting

d. Specific work in the vicinity of lines

- Crossings. Cross-Facility Status
- Parallelism. Double-circuit lines

e. Considerations for the creation of TZ for felling and pruning, painting and other types of activities

f. Access to in-service enclosures and electrical enclosures

g. I work in the area of proximity. Process and roles of participants

- Petitioner and Applicant
- Installation Manager

• Work Manager • Workers
5. Measurements, Tests and Verifications - Equipment and forms of use - General considerations for the prevention of electrical risk - Conditions, rules and organisational process for manoeuvres • Remote manoeuvres or remote controls • Particular situations. Load-buster, self-generators and island risk, overhead CT, distance from disconnectors to fuses - Introduction to Local Maneuvers • Operation order of cutting devices • Indications and signs • Lockouts and Interlocks
6. Jobs with possible presence of hazardous atmospheres - Area Classification • Risk of fire or explosion • Risk of oxygen insufficiency • Risk of toxic substances - Devices for the detection, measurement and control of hazardous atmospheres • Procedure for works. Considerations of RD 614/2001

2.7. ELECTRICAL RISK 1 (INITIAL AELĒC)

ELECTRICAL RISK 1 (INITIAL AELĒC) (DURATION 6* HOURS) THEORETICAL RECYCLING: 3* YEARS	
AIMED AT PERSONNEL: Any worker who accesses electrical installations (transformer stations, substations, switchboards/switchboard rooms, alternator room, rectifiers, photovoltaic plants...) to carry out work (cleaning personnel, civil works, ...) that will not be carried out under any of the Annexes of RD 614/2001 (live work, manoeuvres and tests, in the vicinity of live elements, etc.). or access to work areas where the 5 Golden Rules have been complied with)	
APPLICATION COURSE A ->	
The contents and entities that will provide the training must comply with those published in the "AELĒC Certified ORP Training Standard" and in particular for the training identified as "INITIAL OCCUPATIONAL SAFETY TRAINING IN THE ELECTRICITY SECTOR". Detail that can be found on the AELĒC website (https://formacion.AELĒC.es) IMPORTANT NOTE: * This information will be linked to the publications on the AELĒC website, with the website being relevant to what is indicated in this point if the data do not coincide.	Personnel HIRED by Companies adhering to the AELĒC training standard

2.8. ELECTRICAL RISK 2 TET IN LV (TeTBT skilled worker) client solutions

ELECTRICAL RISK 2 CLIENT SOLUTIONS LIVE JOBS IN LV (TeTBT skilled worker) (DURATION 6 HOURS) THEORETICAL – PRACTICAL RECYCLING: 3 YEARS	
THEORETICAL PART Definition of Low Voltage Tension Work (TeTBT) - Basics of Low Voltage Live Work: • Contact method with insulating hand protection - General conditions for considering whether or not to carry out live work in low voltage Main elements of the facilities and their identification. The content must be appropriate to the type of electrical installation to be worked on, including: - Conductors (cables, individual branches, etc.) - Electrical panels (CGP, protection panels, etc.)	Personnel HIRED by EDP CLIENTES and EDP SOLAR (SEB2B/DISTRIBUTED GENERATION/MOBILITY)

c. Specific equipment for the type of installation (inverters, photovoltaic panels, strings, batteries, chargers, etc.) d. Other common electrical equipment or components (circuit breakers, circuit breakers, differential switches, switches, etc.) e. Ground system, etc. 3. PPE and EPC common in LV work a. Helmet and screen b. Flame retardant, insulating and mechanical gloves c. Fire retardant clothing d. Bench and mat e. Vinyl Canvas 4. Enforcement procedures 5. Most common risks in LV work and type accidents PRACTICAL PART It must be adapted to the type of installation and electrical equipment present at the subject of the work, including, at least, a practical exercise on an electrical panel, which includes: a. The creation of the work area in tension b. Isolation of the worker from earth and live elements c. Use of personal protective equipment d. No electrical charge	
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2.9. ELECTRICAL RISK 3 TET IN LV (TeTBT-enabled skilled worker) except client solutions

ELECTRICAL RISK 3 EXCEPT CLIENT SOLUTIONS LIVE WORK IN LVV (QUALIFIED WORKER QUALIFIED FOR TETLV) (DURATION 25/30 HOURS) THEORETICAL – PRACTICAL RECYCLING: 3 YEARS (DURATION 6/10 HOURS)	
1. General Instruction for Low Voltage Work General instruction for ETT in LV from UNESA-AMYS In section 5. Training, the theoretical and practical training is detailed, indicating that the duration of the initial THEORETICAL-PRACTICAL training is not less than 20 teaching hours, recommending an approximate duration between 25 and 30 hours. In this same section 5., it is indicated that regardless of the initial training that all workers who are going to carry out TET in LV must receive, <u>it will be mandatory</u> for these workers to take a theoretical-practical REFRESHER Course, at least every THREE years, recommending that they have an approximate duration of between 6 and 10 teaching hours.	EXCEPT Personnel HIRED by EDP CLIENTES and EDP SOLAR (SEB2B/DISTRIBUTED GENERATION/MOBILITY)

2.10. ELECTRICAL RISK 4 TET IN AT (QUALIFIED WORKER QUALIFIED FOR TeTAT)

ELECTRICAL RISK 4 LIVE JOBS IN AT (QUALIFIED WORKER QUALIFIED FOR T&T AT) (DURATION 160 HOURS) THEORETICAL – PRACTICAL RECYCLING: 1 YEAR (DURATION 8 HOURS)
1. General Instruction for High Voltage Work General Instruction for ETT in AT from UNESA-AMYS Section 4.4.2 Training details the training and the number of hours, both theoretical and practical. The THEORETICAL-PRACTICAL <u>training for each</u> of the methods of ETT in TA is recommended to have an approximate duration of 160 teaching hours, with 25% of the total time dedicated to the theoretical part, the rest being practical training. In section 4.4.4 Recycling, it is indicated that regardless of the initial training that all workers who are going to carry out TET in TA must receive, it <u>will be mandatory</u> for these workers to take REFRESHER Courses at least ONCE a year, recommending that they last approximately 8 hours.

2.11. AUTHORIZED/INFORMED WORKER FOR "NON-ELECTRICAL" WORK NEAR ELECTRICAL INSTALLATIONS

AUTHORIZED/INFORMED WORKER FOR "NON-ELECTRICAL" WORK NEAR ELECTRICAL INSTALLATIONS (DURATION 3 HOURS) THEORETICAL
1.1 Electrical Risk Overview 1.1.1 Types of Electrical Accidents 1.1.1.1. Arc flash 1.1.1.2. Contact and current passage 1.1.1.2.1. Direct contact 1.1.1.2.2. Indirect contact 1.1.2 Effects of current on the human body 1.1.2.1. Factors on which they depend: 1.1.2.2. Current Strength 1.1.2.3. Duration of Electrical Contact 1.1.2.4. Resistance of the Human Body 1.1.2.5. Applied Voltage 1.1.2.6. Current Frequency 1.1.2.7. Path of the Current through the Body 1.1.2.8. Person's Ability to React 1.2 Personal protective equipment and collective protective equipment 1.2.1. Individual and Collective Protective Equipment against electrical risk 1.3. Electrical Distribution Installations 1.3.1. Description of the transformation facilities (Buildings, outdoor park, cell room, control room and others) 1.4. Royal Decree 614/2001. Classification of works 1.4.1. Structure and summary contents of RD 614/2001 1.4.2. Classification of works 1.4.3. Training of workers with electrical risk 1.5. Work in proximity 1.5.1. General considerations 1.5.2. Description of some types of work in the vicinity of live installations. 1.5.3. Preventive measures 1.5.4. Access to premises in service and enclosures of electrical material

2.12. ELECTRICAL HAZARD 5 AELĒC NON-ELECTRICAL WORK LV (B1)

ELECTRICAL RISK 5 AELĒC NON-ELECTRICAL WORK LVT (B1) (DURATION 5* H) THEORETICAL – DEMONSTRATIVE RECYCLING: 3* YEARS	
AIMED AT: Workers whose non-electrical activity is carried out in LV electrical installations, for which it is necessary to leave the installation without voltage in accordance with RD 614/2001 (exclusively in LV) or who have to adopt some control measure to prevent it (signage, equipment, ...)	
The contents and entities that will provide the training must be in accordance with those published in the "AELĒC Certified ORP Training Standard" and in particular for the training identified as "BASIC OCCUPATIONAL SAFETY TRAINING IN THE ELECTRICITY SECTOR. ELECTRICAL RISK (NON-ELECTRICAL ACTIVITY) IN ELECTRICAL DISTRIBUTION FACILITIES (B1)". Detail that can be found on the AELĒC website (https://formacion.aelēc.es) Workers who carry out training in electrical risk training courses C1 and C2 will not have to be trained in training courses B1 and B2 respectively. Similarly, those who have received B or C training, at any of its levels, will not have to receive the "Initial Occupational Safety Training" provided for in the AELĒC Standard. IMPORTANT NOTE: * This information will be linked to the publications on the AELĒC website, with the website being relevant to what is indicated in this point if the data do not coincide.	Personnel HIRED by Companies adhering to the AELĒC training standard

2.13. ELECTRICAL HAZARD 6 AELĒC NON-ELECTRICAL WORK MT/AT (B2)

ELECTRICAL RISK 6 AELĒC AELĒC NON-ELECTRICAL WORK MT/AT (B2) (DURATION 6* HOURS) THEORETICAL – DEMONSTRATIVE RECYCLING: 3* YEARS	
AIMED AT: Workers whose non-electrical activity is carried out in LV and/or MV/HV electrical installations, for which it is necessary to leave the installation without voltage in accordance with RD 614/2001 (in LV and/or MV/HV) or who have to adopt some control measure to prevent it (signage, equipment, ...)	
The contents and entities that will provide the training must be in accordance with those published in the "AELĒC Certified ORP Training Standard" and in particular for the training identified as "BASIC OCCUPATIONAL SAFETY TRAINING IN THE ELECTRICITY SECTOR. ELECTRICAL RISK (NON-ELECTRICAL ACTIVITY) IN ELECTRICAL DISTRIBUTION FACILITIES (B2)". Detail that can be found on the AELĒC website (https://formacion.aelēc.es) Workers who carry out training in electrical risk training courses C1 and C2 will not have to be trained in training courses B1 and B2 respectively. Similarly, those who have received B or C training, at any of its levels, will not have to receive the "Initial Occupational Safety Training" provided for in the AELĒC Standard. IMPORTANT NOTE: * This information will be linked to the publications on the AELĒC website, with the website being relevant to what is indicated in this point if the data do not coincide.	Personnel HIRED by Companies adhering to the AELĒC training standard

2.14. ELECTRICAL RISK 7 AELĒC MANOEUVRES, VERIFIES AND TESTS BT (C1)

ELECTRICAL RISK 7 AELĒC MANOEUVRING, VERIFYING AND TESTING LV (C1) (MINIMUM DURATION 14* HOURS) THEORETICAL - PRACTICAL RECYCLING: 3* years	
AIMED AT: - Workers whose electrical activity is carried out in LV electrical installations - Workers whose duties are to install, repair or maintain LV electrical installations	
This training is not capable of immediately carrying out the activities indicated, which may require complementary training specific to each company in the sector	
The contents and entities that will provide the training must be in accordance with those published in the "AELĒC Certified ORP Training Standard" and in particular for the training identified as "BASIC OCCUPATIONAL SAFETY TRAINING IN THE ELECTRICAL SECTOR (ELECTRICAL ACTIVITY) IN LV, MV AND AT (C1) ELECTRICAL INSTALLATIONS". Detail that can be found on the AELĒC website (https://formacion.AELĒC.es) Clarification of the transitional period or exceptional situation 2025-2028. Those people who joined the contracts of the associated companies before 1 January 2025 and who have current training validated by them can benefit from the condition of exceptional situation. These people must also have sufficient and adequate experience for the activities they are going to carry out. This exceptional situation requires a responsible declaration, the details of which must be in accordance with the models published in the AELĒC standard. The acceptance of this exceptionality will make it possible that, instead of doing the initial training of courses C1 or C2, they can recycle them at the time they are entitled to update the training according to the periodicities of the standard that will begin to count from the date of delivery associated with the non-aelēc course presented. This training must be renewed at most, every 3 years, and in any case before January 1, 2028 Workers who carry out training in electrical risk training courses C1 and C2 will not have to be trained in training courses B1 and B2 respectively. Similarly, those who have received B or C training, at any of its levels, will not have to receive the "Initial Occupational Safety Training" provided for in the AELĒC Standard. IMPORTANT NOTE: * This information will be linked to the publications on the AELĒC website, with the website being relevant to what is indicated in this point if the data do not coincide.	Personnel HIRED by Companies adhering to the AELĒC training standard

2.15. ELECTRICAL RISK 8 AELĒC MANOEUVRES, VERIFIES AND TESTS BT/AT (C2)

ELECTRICAL RISK 8 AELĒC MANOEUVRING, VERIFYING AND TESTING LV/AT (C2) (MINIMUM DURATION 22* HOURS) THEORETICAL - PRACTICAL RECYCLING: 3* years	
AIMED AT: - Workers whose electrical activity is carried out in LV electrical installations - Workers whose duties are to install, repair or maintain LV electrical installations - Workers whose electrical activity is carried out in LV and/or MV/HV electrical installations	
This training is not capable of immediately carrying out the activities indicated, which may require complementary training specific to each company in the sector	
The contents and entities that will provide the training must be in accordance with those published in the "AELĒC Certified ORP Training Standard" and in particular for the training identified as "BASIC OCCUPATIONAL SAFETY TRAINING IN THE ELECTRICITY SECTOR (ELECTRICAL ACTIVITY) IN LV, MV AND AT (C2) ELECTRICAL INSTALLATIONS". Detail that can be found on the AELĒC website (https://formacion.aelēc.es) Clarification of the transitional period or exceptional situation 2025-2028. Those people who joined the contracts of the associated companies before 1 January 2025 and who have current training validated by them can benefit from the condition of exceptional situation. These people must also have sufficient and adequate experience for the activities they are going to carry out. This exceptional situation requires a responsible declaration, the details of which must be in accordance with the models published in the AELĒC standard. The acceptance of this exceptionality will make it possible that, instead of doing the initial training of courses C1 or C2, they can recycle them at the time they are entitled to update the training according to the periodicities of the standard that will begin to count from the date of delivery associated with the non-aelēc course presented. This training must be renewed at most, every 3 years, and in any case before January 1, 2028 Workers who carry out training in electrical risk training courses C1 and C2 will not have to be trained in training courses B1 and B2 respectively. Similarly, those who have received B or C training, at any of its levels, will not have to receive the "Initial Occupational Safety Training" provided for in the AELĒC Standard. IMPORTANT NOTE: * This information will be linked to the publications on the AELĒC website, with the website being relevant to what is indicated in this point if the data do not coincide.	Personnel HIRED by Companies adhering to the AELĒC training standard

2.16. (ELEC) TRAINING COURSE 1 (STANDARD 25) "NETWORK OPERATION STANDARD TRAINING"*

"Formation of the Network Operation Standard" (STANDARD 25) (MINIMUM DURATION 16 HOURS/2 DAYS) MODALITY: Theoretical	
AIMED AT: Any user of the EDP Networks operating standard who participates in the role of Applicant, Organizing Technician, Coordinator, Authorizer, Works Manager, Local Operator RED Y SE MT, Local Operator SE MT/AT, Protected Area Agent	
MINIMUM CONTENT: All the modules of the current Network Operation Manual will be addressed in a theoretical way Module 1-MV and Switchgear Installations Module 2-Safety and Electrical Risk (application case) Module 3-Maneuvers Module 4 Operating Standard Module 4-Operation Standard Annex 1 TST Module 4-Operating Standard Annex 2 TET Module 4-Operation Standard Annex 3 TPT Module 4-Standard of Operation Annex 4 V&P Module 4-Operation Standard Annex 5 Inspection of the bypass in the TET Module 4-Operation Standard Annex 6 REEX Module 4-Operation Standard Annex 7 OyMTyC	Applicable for POWER GRIDS
RECYCLING: 6 Hours (5 years or substantial rule changes) Review key points, news, lessons learned (incidents, opportunities for improvement, ...)	
*Note: The following singularities will be considered in the validation criteria: • <u>Active personnel in other CTAIMA contracts dated before 2025</u> Courses of the Viesgo/BEGASA standard or the E-Redes Discharge Voucher whose contents and workloads respond to formats prior to the publication of this index (2025) will be accepted, provided that a record of the recycling course is included in the NEW STANDARD published in 2024 or later. In the case of personnel already authorized in the CTAIMA tool dated before 2026, "(ELEC) Certificate of Approval for Maneuvering Agent" dated before 2024 will be accepted as proof of training provided that a record of the refresher course has also been included in the NEW STANDARD published in 2024 or later. • <u>Personnel not active in other CTAIMA contracts dated before 2025 but with experience in maneuvering on the network.</u> Courses of the Viesgo/BEGASA standard or the E-Redes Discharge Bonus whose contents and workloads respond to formats prior to the publication of this index (2025) will be accepted, provided that a record of the recycling course is included in the NEW STANDARD published in 2024 or later, together with an affidavit from the contractor company of having carried out similar tasks for other distribution companies in the last 6 months. In the case of personnel already authorized in the CTAIMA tool dated before 2026, "(ELEC) Certificate of Approval for Maneuvering Agent" dated before 2024 will be accepted as proof of training provided that a record of the refresher course has also been included in the NEW STANDARD published in 2024 or later, along with an affidavit from the contractor company of having performed similar tasks for other distribution companies in the last 6 months. • <u>New additions</u> The new formats will be applicable without exception.	

2.17. (ELEC) TRAINING COURSE 2 (STANDARD 25)"PRACTICAL TRAINING NETWORK OPERATION STANDARD"*

"Practical Training Network Operation Standard" - Theoretical-Practical (STANDARD 25)* (MINIMUM DURATION 8 Hours/1 day) MODALITY: theoretical-practical	
AIMED AT: Users of the EDP Networks operating standard who participate in the role of Works Manager, Local Operator RED Y SE MT, Local Operator SE MT/AT, Protected Area Agent	
MINIMUM CONTENT: "The next module will be addressed in a practical way and on network equipment, reinforcing theoretical aspects taught in course 1. Module 4 Operating Standard Module 4-Operation Standard Annex 1 TST Module 4-Operating Standard Annex 2 TET Module 4-Operation Standard Annex 3 TPT Module 4-Standard of Operation Annex 4 V&P Module 4-Operation Standard Annex 5 Inspection of the bypass in the TET Module 4-Operation Standard Annex 6 REEX Module 4-Operation Standard Annex 7 OyMTyC"	Applicable for POWER GRIDS
RECYCLING: 2 Hours (5 years or substantial changes to the standard)	
*Note: The following singularities will be considered in the validation criteria: • <u>Active personnel in other CTAIMA contracts dated before 2025</u> Courses of the Viesgo/BEGASA standard or the E-Redes Discharge Voucher whose contents and workloads respond to formats prior to the publication of this index (2025) will be accepted, provided that a record of the recycling course is included in the NEW STANDARD published in 2024 or later. In the case of personnel already authorized in the CTAIMA tool dated before 2026, "(ELEC) Certificate of Approval for Maneuvering Agent" dated before 2024 will be accepted as proof of training provided that a record of the refresher course has also been included in the NEW STANDARD published in 2024 or later. • <u>Personnel not active in other CTAIMA contracts dated before 2025 but with experience in maneuvering on the network.</u> Courses of the Viesgo/BEGASA standard or the E-Redes Discharge Bonus whose contents and workloads respond to formats prior to the publication of this index (2025) will be accepted, provided that a record of the recycling course is included in the NEW STANDARD published in 2024 or later, together with an affidavit from the contractor company of having carried out similar tasks for other distribution companies in the last 6 months. In the case of personnel already authorized in the CTAIMA tool dated before 2026, "(ELEC) Certificate of Approval for Maneuvering Agent" dated before 2024 will be accepted as proof of training provided that a record of the refresher course has also been included in the NEW STANDARD published in 2024 or later, along with an affidavit from the contractor company of having performed similar tasks for other distribution companies in the last 6 months. • <u>New additions</u> The new formats will be applicable without exception.	

2.18. (ELEC) TRAINING COURSE 3 (STANDARD 25)"LOCAL OPERATION TRAINING NETWORK AND MT*

"LOCAL NETWORK OPERATION TRAINING AND MT SE (STANDARD 25)" (MINIMUM DURATION 8 Hours/1 day) MODALITY: Practical	
AIMED AT: Users of the EDP Networks operating standard who participate in the role of Local Operator RED Y SE MT	
MINIMUM CONTENT: "The next module will be addressed in a practical way, reinforcing theoretical aspects taught in the course Module 3-Maneuvers Module 5-Network Practices and SE MV"	Applicable for POWER GRIDS
RECYCLING: 6 Hours (5 years or substantial rule changes) In case of recycling simultaneously course 3 and 4 of the standard, a single 8-hour course will be accepted. The object of the retraining must include review of key points, novelties, new maneuvering technologies, lessons learned (incidents, opportunities for improvement, ...) + practices"	
*Note: The following singularities will be considered in the validation criteria: • <u>Active personnel in other CTAIMA contracts dated before 2025</u> Courses of the Viesgo/BEGASA standard or the E-Redes Discharge Voucher whose contents and workloads respond to formats prior to the publication of this index (2025) will be accepted, provided that a record of the recycling course is included in the NEW STANDARD published in 2024 or later. In the case of personnel already authorized in the CTAIMA tool dated before 2026, "(ELEC) Certificate of Approval for Maneuvering Agent" dated before 2024 will be accepted as proof of training provided that a record of the refresher course has also been included in the NEW STANDARD published in 2024 or later. • <u>Personnel not active in other CTAIMA contracts dated before 2025 but with experience in maneuvering on the network.</u> Courses of the Viesgo/BEGASA standard or the E-Redes Discharge Bonus whose contents and workloads respond to formats prior to the publication of this index (2025) will be accepted, provided that a record of the recycling course is included in the NEW STANDARD published in 2024 or later, together with an affidavit from the contractor company of having carried out similar tasks for other distribution companies in the last 6 months. In the case of personnel already authorized in the CTAIMA tool dated before 2026, "(ELEC) Certificate of Approval for Maneuvering Agent" dated before 2024 will be accepted as proof of training provided that a record of the refresher course has also been included in the NEW STANDARD published in 2024 or later, along with an affidavit from the contractor company of having performed similar tasks for other distribution companies in the last 6 months. • <u>New additions</u> The new formats will be applicable without exception.	
Prerequisites: Requires COURSE 1 AND 2 of the Operation Standard	

2.19. (ELEC) TRAINING COURSE 4 (STANDARD 25)"LOCAL OPERATION TRAINING IS MT/AT"*

" Local Operation Training SE MT/AT " - Practical (MINIMUM DURATION 8 Hours/1 day) MODALITY: Practical	
AIMED AT: Users of the EDP Networks operating standard who participate in the role of Local Operator RED Y SE MT	
MINIMUM CONTENT: "The next module will be addressed in a practical way, reinforcing theoretical aspects taught in the course Module 3-Maneuvers Module 5-"TM/AT Practices"	Applicable for POWER GRIDS
RECYCLING: 6 Hours (5 years or substantial rule changes) In case of recycling simultaneously course 3 and 4 of the standard, a single 8-hour course will be accepted. The object of the retraining must include review of key points, novelties, new maneuvering technologies, lessons learned (incidents, opportunities for improvement, ...) + practices"	
*Note: The following singularities will be considered in the validation criteria: • <u>Active personnel in other CTAIMA contracts dated before 2025</u> Courses of the Viesgo/BEGASA standard or the E-Redes Discharge Voucher whose contents and workloads respond to formats prior to the publication of this index (2025) will be accepted, provided that a record of the recycling course is included in the NEW STANDARD published in 2024 or later. In the case of personnel already authorized in the CTAIMA tool dated before 2026, "(ELEC) Certificate of Approval for Maneuvering Agent" dated before 2024 will be accepted as proof of training provided that a record of the refresher course has also been included in the NEW STANDARD published in 2024 or later. • <u>Personnel not active in other CTAIMA contracts dated before 2025 but with experience in maneuvering on the network.</u> Courses of the Viesgo/BEGASA standard or the E-Redes Discharge Bonus whose contents and workloads respond to formats prior to the publication of this index (2025) will be accepted, provided that a record of the recycling course is included in the NEW STANDARD published in 2024 or later, together with an affidavit from the contractor company of having carried out similar tasks for other distribution companies in the last 6 months. In the case of personnel already authorized in the CTAIMA tool dated before 2026, "(ELEC) Certificate of Approval for Maneuvering Agent" dated before 2024 will be accepted as proof of training provided that a record of the refresher course has also been included in the NEW STANDARD published in 2024 or later, along with an affidavit from the contractor company of having performed similar tasks for other distribution companies in the last 6 months. • <u>New additions</u> The new formats will be applicable without exception.	
Prerequisites: Requires COURSE 1 AND 2 of the Operation Standard	

2.20. MANOEUVRING AGENTS "APPROVAL OF CONTRACTOR PERSONNEL FOR MANOEUVRES IN THE EDP SPAIN NETWORK"

MANEUVER AGENTS "APPROVAL OF CONTRACTOR PERSONNEL FOR MANOEUVRES IN THE EDP SPAIN NETWORK" (MINIMUM DURATION 40 HOURS) 20 THEORETICAL HOURS/20 PRACTICAL HOURS in the Air Network, in CTs or CRs	
CONTENT OF THE TRAINING "APPROVAL OF CONTRACTOR PERSONNEL FOR MANOEUVRES IN THE EDP SPAIN NETWORK": Determined by the documentation that EDP Spain will specifically provide ACCREDITATION: • Certificate of having passed the training "APPROVAL OF CONTRACTOR PERSONNEL FOR MANOEUVRES IN THE EDP SPAIN NETWORK", issued and stamped by the training entity that has provided it. • Certificate of "SUPERVISED MANOEUVRES IN THE EDP SPAIN DISTRIBUTION NETWORK". This certificate will be signed and stamped by the head of EDP Spain's Operation and Maintenance Department or the person delegated by him/her.	Applicable for POWER GRIDS

2.21. DISCHARGE AGENTS, WORK MANAGERS, WORK SUPERVISORS "APPROVAL OF CONTRACTOR PERSONNEL IN EDP SPAIN DISCHARGES"

DISCHARGE AGENTS, WORK MANAGERS, WORK SUPERVISORS "APPROVAL OF CONTRACTOR PERSONNEL IN EDP SPAIN DISCHARGES" (MINIMUM DURATION 24 HOURS) 12 THEORETICAL HOURS/8 PRACTICAL HOURS in the Air Network + 4 PRACTICAL HOURS in CT's	
MINIMUM CONTENT OF THE TRAINING "APPROVAL OF CONTRACTOR PERSONNEL IN EDP SPAIN'S DISCHARGES": • Interpretation of single-line diagrams by EDP SPAIN. Orthogonal diagrams of the DCD and diagrams of possible equipment installed in the field • Description of the technology of EDP ESPAÑA's facilities and the equipment that composes it: – for outdoor and indoor CT's – for overhead network equipment – Cutting and Maneuvering Devices – Maneuver Interlocks – Nameplate, data interpretation – Protections and grounding – Operators, control and control devices, reclosers – AT and LV fuses – BT frames • Security measures and means applicable in the facilities • EDP SPAIN's Occupational Risk Prevention Manual, in particular the chapters: – General, electrical risk – Work on electrical installations – Working at height • RD 614/2001 on electrical risk. Golden Rules • EDP SPAIN's Discharge Procedure: – Communication with DCD, IDs, vocabulary and definitions – Responsibilities – Protected area – Work area • Response to Accidents and Incidents during maneuvers ACCREDITATION: Certificate of having passed the training "HOMOLOGATION OF CONTRACTOR PERSONNEL IN EDP SPAIN DISCHARGES", signed by the instructor or training entity. EXPERIENCE ACCREDITATION :	Applicable for POWER GRIDS

1. If it is intended to accredit the figure OF THE SUPERVISOR OF THE WORK IN THE DEFENSE, minimum experience OF 2 YEARS demonstrable for the work to be carried out 2. If it is intended to accredit the figure of the HEAD OF WORK IN THE DISCHARGE, minimum experience OF 2 YEARS demonstrable for the work to be carried out 3. If it is intended to accredit the figure of the DISCHARGE AGENT IN THE DISCHARGE, demonstrable MINIMUM EXPERIENCE OF 1 YEAR for the work to be carried out	
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2.22. ELECTROMAGNETIC FIELDS

ELECTROMAGNETIC FIELDS (DURATION 2 HOURS) THEORETICAL	
Development of Royal Decree 299/2016, of 22 July, on the protection of the health and safety of workers against risks related to exposure to electromagnetic fields: 1. Electromagnetic fields and other concepts a. What are electromagnetic fields (EMFs) b. What is electromagnetic radiation? 2. Sources of electromagnetic fields 3. Health effects and safety risks of electromagnetic fields a. Direct effects b. Indirect effects c. Effects of long-term exposure d. Workers with particular risks 4. Risk assessments a. Legal requirements b. Exposure limit values (ELVs) and performance levels (NAs) c. Risk assessment and exposure determination d. Preventive measures	

2.23. WORK AT HEIGHT 1. GENERAL MODULE

WORK AT HEIGHT 1. GENERAL MODULE (DURATION 8 HOURS) THEORETICAL - PRACTICAL RECYCLING: 3 YEARS	
RD 2177/2004 on minimum SS requirements for the use by workers of work equipment in terms of temporary work at height. 1. Definition of work at height 2. Identification of scenarios for work at height: ladders, vertical ladders, scaffolding and walkable roofs. 3. The basics a. Anchor Points b. Safety distance c. Drop factor d. Impact Force 4. Protection systems a. Collective protections b. Horizontal and vertical, fixed and temporary lifelines c. PPE: harness, anchor lines, energy absorber, sliding fall arrester, retractable fall arrester, adjustable lanyard, helmet d. Characteristics of PPE for work at height e. Correct use of PPE f. Suspension trauma g. Access and positioning techniques at heights h. Suspension trauma and use of stirrups 5. Practical exercises (adaptable according to business requirements) a. Review of personal fall protection equipment at user level b. Use of personal protective equipment for work at heights	EXCEPT Personnel HIRED by Companies adhering to the AELÉC training standard

c. Mounting and dismantling temporary, vertical and horizontal lifelines d. Basic techniques of ascent and descent and horizontal progression: rope fall arresters, cable protectors, rail fall arresters, double hook technique, use of retractable poles, use of telescopic poles, etc. e. Basic positioning techniques and retention work f. Prevention of suspension trauma. Use of stirrups g. Knots h. Safe use of ladders i. Safe use of scaffolding	
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2.24. WORK AT HEIGHT 1. AELĒC GENERIC MODULE

WORK AT HEIGHT 1 AELĒC. GENERIC MODULE (DURATION 8 HOURS) THEORETICAL - PRACTICAL RECYCLING: 3 YEARS	
AIMED AT: Personnel who carry out work of various kinds (masonry work, painting work, repairs, maintenance work, etc.) in which the risk of falling from height of more than 2 meters is present at the sites of the installations of the electricity sector (installations belonging to the companies associated with AELĒC or those whose maintenance and operation are assigned to them) This section includes work on transformers, roofs and accessible structures with identified service areas and fixed protections provided for the maintenance of the equipment	
The contents and entities that will provide the training must be in accordance with those published in the "AELĒC Certified ORP Training Standard" and in particular for the training identified as " BASIC OCCUPATIONAL SAFETY TRAINING IN THE ELECTRICITY SECTOR. WORK AT HEIGHT. GENERIC MODULE ". Detail that can be found on the AELĒC website (https://formacion.aelēc.es) IMPORTANT NOTE: * This information will be linked to the publications on the AELĒC website, with the website being relevant to what is indicated in this point if the data do not coincide.	Personnel HIRED by Companies adhering to the AELĒC training standard

2.25. WORK AT HEIGHT 2. FOR DISTRIBUTION-TYPE INSTALLATIONS. ADD-ON MODULE

WORK AT HEIGHT 2 FOR DISTRIBUTION TYPE INSTALLATIONS. ADD-ON MODULE (DURATION 8 HOURS) THEORETICAL - PRACTICAL RECYCLING: 3 YEARS	
1. Work at heights on supports, poles and electrical towers 2. Prior verification of supports and structures 3. Collective and individual protective equipment typical of the electricity sector 4. Access and progression in: a. Wooden supports and structures b. Concrete supports and structures c. Metal supports and structures: lattice towers and tubular towers 5. Positioning and suspension work in: a. Wooden supports and structures b. Concrete supports and structures c. Metal supports and structures: lattice towers and tubular towers 6. Evacuation and rescue a. Knowledge of evacuation and rescue equipment: manual and automatic descenders, rescue and evacuation kit b. Evacuation techniques c. Rescue techniques 7. Practical exercises: a. Techniques for ascent and descent and progression on wooden, concrete and metal supports and electric poles. b. Positioning techniques and suspension work on electric supports and poles c. Evacuation techniques: with automatic and manual descenders of wooden, concrete and metal supports and structures	EXCEPT Personnel HIRED by Companies adhering to the AELĒC training standard

d. Rescue of a person suspended from their fall arrest system on wooden, concrete and metal supports and structures NOTE: In order to carry out this module, the worker must have the certification of having completed the General Module of Work at Height 1	
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2.26. WORK AT HEIGHT 2. AELĒC FOR ELECTRICAL DISTRIBUTION INSTALLATIONS. ADD-ON MODULE

WORK AT HEIGHT 2. AELĒC FOR ELECTRICAL DISTRIBUTION INSTALLATIONS. ADDITIONAL MODULE AT HEIGHT 1 AELĒC (DURATION 8* HOURS) THEORETICAL - PRACTICAL RECYCLING: 3 YEARS	
AIMED AT: Personnel who carry out work at height of various kinds in electrical distribution or transport facilities using climbing or rope techniques.	
The contents and entities that will provide the training must be in accordance with those published in the "AELĒC Certified ORP Training Standard" and in particular for the training identified as "BASIC OCCUPATIONAL SAFETY TRAINING IN THE ELECTRICITY SECTOR. WORK AT HEIGHT - MODULE 2.". Detail that can be found on the AELĒC website (https://formacion.aelēc.es) To take course 2 it is mandatory to take the generic course beforehand. Exceptionally, the generic course may be validated for those who have a training of the same duration or more, in face-to-face mode and with a content that includes the syllabus included in the generic course. This exceptional situation requires a responsible declaration, the details of which must be in accordance with the models published in the AELĒC standard. IMPORTANT NOTE: * This information will be linked to the publications on the AELĒC website, with the website being relevant to what is indicated in this point if the data do not coincide.	Personnel HIRED by Companies adhering to the AELĒC training standard

2.27. WORK AT HEIGHT 3 FOR WORK ON ROOFS, ROOFS AND ROOFS

WORK AT HEIGHT 3 FOR WORK ON ROOFS, ROOFS AND ROOFS (DURATION 16 HOURS) THEORETICAL - PRACTICAL RECYCLING: 3 YEARS	
Module 1 - Risks of working at height (Rescue at height)	
1.1 Regulations applicable to the performance of work at height: General definitions and standards; Applicable legislation, UNE-EN and NTP standards	
1.2 Falls from height. General concepts Fall Factor; Shock force; Fall Distance and Safety Distance; Pendulum effect e. Harness syndrome and its prevention	
1.3 Standards and safety measures for work on roofs, roofs and roofs: According to types of roof, work, resistance zones, weather conditions, signage and delimitation of work, handling of loads, etc.	
Module 2 - Safety equipment	
2.1 Personal fall protection equipment and systems	
2.1.1 Personal Fall Protection Systems (EN 363): - Retention Systems; Fastening System; Fall arrest systems; Rope access system - Rescue system	
2.1.2 Category III Personal Protective Equipment: - Fall arrest harnesses (EN 361), positioning (EN 358) and suspension harnesses (EN 813) - Connectors (EN 362); Anchor lines (EN 354); Anchor lines with energy absorber (EN 355); Adjustable positioning systems (EN 358); Retractable fall arrest systems (EN 360) - Mobile fall arresters for flexible systems – rope/cable (EN 353-2); Mobile fall arresters for rigid systems – cable/rails (EN 353-1)	

- Dynamic (EN 892), semi-static (EN 1891) and double homologation ropes
 - Auxiliary material
 - Rescue equipment and devices
 - Conservation, maintenance and checking/servicing of equipment as a user (EN 365)
- 2.2 Collective protection systems
- 2.2.1 Temporary Edge Protection Systems - SPPB (EN 13374):
- Class A; Class B; Class
- 2.2.2 Safety nets (EN 1263):
- S System; T-System; U-System; V System
- 2.2.3 Permanent safety railings (EN 14122-3):
- Self-supporting; Fixed to the ground or bib
- 2.2.4 Fall protections for translucent and skylights:
- Temporary; Permanent; Safe Steps
- 2.2.5 Walkways and wolf jumps (EN 14122-2 and EN 14122-3):
- 2.3 Anchoring devices (EN 795)
- Type A – permanent; Type B – mobile or transportable; Type C – Flexible horizontal anchor lines; Type D – Rigid horizontal rails/rails; Type E – Ballast/Deadlifts
- 2.4 Evacuation and rescue systems for work at height:
- Self-rescue; Evacuation – Descent; Assisted Rescue on Fragile Roofs (industrial buildings), on vertical access ladders, on metal structures, etc.; Professional rescue
- Module 3 - Access from the ground**
- 3.1 Scaffolding work:
- General risks; Preliminary considerations and limitations; Security systems; Usage
- 3.2 Work with lifting platforms for people:
- General risks; Preliminary considerations and limitations; Security systems; Usage
- 3.3 Work on fixed and ladders:
- General risks; Preliminary considerations and limitations; Security systems; Usage
 - For maintenance in buildings (DIN 18799-1); For permanent access to machines (EN 14122-4)
- Module 4 - Practical part (recommended at least 6 h)**
- 4.1 Placement, operation and use of PPE
- 4.2 Access by scaffolding, ladders, etc.
- 4.3 Use of Lifting Platforms
- 4.4 Making basic knots
- 4.5 Worked on roofs, roofs and roofs:
- Use of EN795-C horizontal lifelines; Use of EN 795-B temporary lifelines; Use of EN 353-2 rope fall arresters; Use of retractable fall arresters EN 360 12
 - Use of EN353 fixed and temporary vertical lifelines; Using EN 358 Positioning Devices
- 4.6 Lifting loads:
- Hoists and counterweights
- 4.7 Rescue on roofs, rooftops and rooftops:
- Necessary equipment, guidelines and system of action
 - Unblocking of an injured person; Evacuation of an injured person
- NOTE 1: Course necessary to be able to access roofs, roofs and rooftops that present a risk of falling at different levels (due to their fragility; absence of perimeter parapet or insufficient height; absence of collective protections that avoid any risk of falling at different levels, i.e. involving the use of PPE and fall protection systems; difficulty-insecurity of access; etc.). This course must be taught by trainers and/or entities accredited in ANETVA or IRATA.**

2.28. WORK AT HEIGHT 4 FOR INSTALLATION OF ANCHORS AND TEMPORARY LIFELINES

WORK AT HEIGHT 4 FOR INSTALLATION OF ANCHORS AND TEMPORARY LIFELINES (DURATION 8 HOURS) THEORETICAL - PRACTICAL RECYCLING: 3 YEARS	
1. Non-exhaustive minimum indicative contents:	- Description and types of anchors - Installation of chemical anchors - Installation of mechanical anchors - Installation of construction anchors - UNE 795 approvals and standards - Base materials - Fields of application - Inspection, measurement and testing - Description and installation of horizontal and vertical temporary lifelines - Tensioning of lifelines. - Lifeline compatible accessories NOTE 1: The practical part must have a minimum duration of 4 hours. NOTE 2: In order to take this module, the worker must have the certification of having previously completed the Work at Height 3 course. NOTE 3: Required for <u>at least one</u> of the members of the team, i.e. the person in charge of installing and supervising the condition and use of the fall arrest elements placed in those jobs where roofs, roofs and roofs are accessed without safe access and disembarkation or non-passable or without a bib or with a parade of less than 90 cm and without adequately installed collective protections that eliminate the risk of falling.

2.29. WORK AT HEIGHT 5. ASSEMBLY OF COLLECTIVE PROTECTIONS

WORK AT HEIGHT 5. ASSEMBLY OF COLLECTIVE PROTECTIONS (DURATION 8 HOURS) THEORETICAL - PRACTICAL RECYCLING: 5 YEARS	
MINIMUM CONTENTS:	1. Anchors 2. Safety nets 3. Metal meshes 4. Railings 5. Certifications 6. Practical exercises NOTE 1: The practical part must have a minimum duration of 4 hours. NOTE 2: In order to take this module, the worker must have the certification of having previously completed the Work at Height 3 course. NOTE 3: Required for <u>at least one</u> of the members of the team, i.e. the person in charge of installing and supervising the condition and use of the fall arrest elements placed in those jobs where roofs, roofs and roofs are accessed without safe access and disembarkation or non-passable or without a bib or with a parade of less than 90 cm and without adequately installed collective protections that eliminate the risk of falling.

2.30. CHEMICAL HANDLING

CHEMICAL HANDLING (DURATION 3 HOURS) THEORETICAL RECYCLING: 5 YEARS	
1. Risks and measures to be adopted	
2. Classification of chemicals used	
3. Types of PP handling. QQ.:	• Unloading tanks: – with air

- by gravity
- with pump
- ADR requirements in the discharge of tanks. Check list review
- IBC Handling
- Handling of 25L bottles
- Bag handling
- Collective protective equipment
- PPE: Personal protective equipment

2.31. HANDLING OF FIXED ELECTRICAL SWITCHES CONTAINING FLUORINATED (SF6) GREENHOUSE GASES

HANDLING OF FIXED ELECTRICAL SWITCHES CONTAINING FLUORINATED GREENHOUSE GASES (SF6) (DURATION 18 HOURS) THEORETICAL - PRACTICAL	
1.	Basic knowledge of environmental issues (climate change, Kyoto Protocol, global warming potential, etc.), as well as Regulation (EU) 517/2014 of the European Parliament and of the Council of 16 April 2014 on fluorinated greenhouse gases and the implementing Regulations
2.	Physical, Chemical and Environmental Properties of Sulphur Hexafluoride (SF6)
3.	Health effects of SF6 breakdown products
4.	Uses of SF6 in electrical equipment (insulation, arc cooling, etc.) and understanding electrical equipment design
5.	SF6 quality, quality control and sampling according to industry standards
6.	SF6 Storage and Transport
7.	Operation of extraction equipment, recovery of SF6, and management of watertight drilling systems
8.	SF6 Recovery, Mixing, Debugging and Reuse and different types of reuse
9.	Working in open compartments with SF6, SF6 detectors
10.	SF6 By-Product Neutralization
11.	End of Life of SF6 Atmosphere Equipment
12.	Monitoring of SF6 and relevant data recording obligations under national or EU law or international agreements
13.	Leak Reduction and Leak Controls
14.	Alternative technologies to replace or reduce the use of fluorinated greenhouse gases and the safe way to handle them
Safety conditions in the handling of these technologies	

2.32. EXPLOSIVE ATMOSPHERES

EXPLOSIVE ATMOSPHERES (DURATION 2 HOURS) THEORETICAL RECYCLING: 5 YEARS	
1.	Applicable regulations: RD 681/2003
2.	ATEX Installations
3.	Flammability limits
4.	Ignition Sources
5.	Zone classification
6.	DOPEX Document
7.	Prevention and protection against explosive atmospheres
8.	ATEX Classification of Electrical Equipment for ATEX Atmospheres

2.33. CONFINED ENCLOSURES

CONFINED ENCLOSURES (DURATION 8 HOURS) THEORETICAL - PRACTICAL RECYCLING: 3 YEARS	
1. Definition and typology of confined spaces	
a. Definition of confined space	• General legislation • Specific legislation • Confined Space Work Permits
b. Typology of confined spaces	• Service galleries • Tanks and chambers • Underground transformer stations • Boilers • Process and/or chemical storage tanks/tanks • Other facilities
2. PPE, EPC and safety equipment	
a. Minimum protective equipment for work in confined spaces	
3. Risks of working in confined spaces	
a. General risks of confined space access	
b. Specific risks of confined spaces	• Asphyxiating atmospheres. • Toxic atmospheres. • Flammable atmospheres
4. Preventive measures in confined space work	
5. Required documentation	• Work permit • Working procedure
6. Designation and functions of the Preventive Resource	
7. General preventive measures	
8. Specific preventive measures	• Indoor atmosphere assessment • Preventive measures in hazardous atmospheres • Ventilation • Respiratory protective equipment • Communications with the outside world
9. Action in case of emergency	
a. Emergency action procedure	• Rescue from the outside • Emergency access to the confined space
b. Rescue and evacuation teams	
c. Use of life-saving and respiratory protection equipment	
10. Practical exercises	
a. Application of ventilation and techniques to test effectiveness	
b. Measurement of indoor atmospheres with multiple gas detectors.	
c. Access to enclosures confined by vertical and horizontal manholes	
d. Action in case of emergency; rescue of an injured worker	
e. Use of self-contained breathing apparatus	
f. Evacuation and extinguishing of fires in rooms without visibility	
g. Actions in confined spaces that are ATEX zones	

2.34. AELĒC CONFINED ENCLOSURES

AELĒC CONFINED ENCLOSURES (DURATION 8* HOURS) THEORETICAL - PRACTICAL RECYCLING: 3* YEARS	
The contents and entities that will provide the training must be in accordance with those published in the "AELĒC Certified ORP Training Standard" and in particular for the training identified as "BASIC OCCUPATIONAL SAFETY TRAINING IN THE ELECTRICITY SECTOR. WORK IN CONFINED SPACES". Detail that can be found on the AELĒC website (https://formacion.aelēc.es) IMPORTANT NOTE: * This information will be linked to the publications on the AELĒC website, with the website being relevant to what is indicated in this point if the data do not coincide.	Personnel HIRED by Companies adhering to the AELĒC training standard

2.35. WORK WITH ASBESTOS RISK

WORK WITH ASBESTOS RISK (DURATION 2 HOURS) THEORETICAL
RD 396/2006 which establishes the minimum health and safety provisions applicable to work with a risk of exposure to asbestos 1. Properties of asbestos and its effects on health, including the synergistic effect of smoking 2. Types of products or materials that may contain asbestos 3. Operations that may involve exposure to asbestos and the importance of means of prevention to minimise exposure 4. Safe professional practices, controls and protective equipment 5. Function, choice, selection, appropriate use, and limitations of respiratory equipment; where appropriate, depending on the type of equipment used, the forms and methods of checking the operation of the respiratory equipment 6. Emergency Procedures 7. Decontamination procedures 8. Waste disposal 9. Health surveillance

2.36. MANUAL HANDLING OF LOADS

MANUAL HANDLING OF LOADS (DURATION 2 HOURS) THEORETICAL - PRACTICAL RECYCLING: 5 YEARS
1. Definitions. Accident rate. Basic regulatory framework 2. Musculoskeletal risks linked to the workplace. Forced postures. Repetitive motions 3. Specific preventive measures: lifting of manhole covers and underground CT sheets, etc. 4. Cargo handling

2.37. TRUCK HANDLING AND LIFTING LOADS

TRUCK HANDLING AND LIFTING LOADS THEORETICAL - PRACTICAL RECYCLING: 5 YEARS
Adjusted to the content of the UNE 58451 standard 6. CONTENT OF THE TRAINING 6.1 GENERAL TRAINING 6.1.1 CONTENT OF THE THEORETICAL TRAINING a. Information about the truck to use b. General awareness about risks, accidents, occupational safety, etc. c. Commonly used basics d. Basic legislation (insurance and liabilities), including knowledge of this standard

- e. Symbols and pictograms
- f. Overview of machine parts and equipment used, terminology. Essential differences with respect to the automobile
- g. Existing machine customs, controls
- h. Implications due to the working environment (emissions, noise level, electromagnetic compatibility, hazardous atmospheres, etc.), state of pavements and floors, consolidated floors, doors, forklifts, ramps and slopes, electrical cables, loading docks. Conditions of workplaces according to RD 486/97
- i. Fuel, diesel, gasoline, gas, battery charging operations
- j. Typical operations in daily machine use
- k. Rated load, permissible load, load center, lifting height, arm reach, load graphs
- l. Stability of the whole. Effects on stability, types of wheels and tires, speed, types of steering. Use on ramps
- m. Idle and loaded driving, travel speed, steering types, turning radius, braking
- n. Lifting operations, load limitations by lifting height, by use of accessories. Visibility
- o. Use of special accessories for specific load units. Effect on the permissible load capacity
- p. Oscillating loads, or with variable center of gravity
- q. Lifting of people. Limits and constraints depending on their usual or exceptional use
- r. Types of racks, storage systems
- s. Manoeuvring corridors, mixed traffic with pedestrians
- t. Use on public or common roads
- u. Daily start-up control, visual/functional checks: brakes, horn, etc.
- v. Typical preventive maintenance, wheels, levels
- w. Operator's manuals provided by the equipment manufacturer
- x. Personal protective equipment, depending on the area or type of work
- y. Parking the machine in the parking lot
- z. Procedures to be followed in case of risk situation, operator restraint, seat belt, etc.

6.1.2 CONTENT OF THE PRACTICAL TRAINING

- a. Knowledge of machine parts, visual control of features, maintenance, controls, plates, manuals
- b. Checking start-up, steering, brakes, horn, etc.
- c. Unladen manoeuvres, movement in both directions, speeds, turns, braking, use on ramps
- d. Similar manoeuvres with a load
- e. Loading and unloading of trucks, placing and removing loads on racks, stacking and removal of loads on free surface
- f. Load graph, check effect of load dimensions
- g. With accessories, clamps, containers, davits, etc.
- h. Extraordinary manoeuvres, such as loads of unusual dimensions or characteristics due to their length, shape, handling of a load simultaneously with two forklifts, etc.

6.2 SPECIFIC TRAINING ACCORDING TO TYPE OF HANDLING TRUCK

TYPE 1

- Pallet trucks and other similar vehicles, with lifting operations of less than 0,5 m
- Transport trucks and tractors, where there are no lifting operations
- Stackers

TYPE 2

- Cantilever Loaded Mast Forklifts
- Telescopic boom forklifts
- Reach Mast Forklifts
- High-lift storage trucks, including those that the operator lifts along with the load. Pick high-level orders
- Truck-mounted forklifts
- Other types and working conditions to be specified

7. DURATION OF FACE-TO-FACE TRAINING

The duration of the initial training period must be at least that established in the table:

	THEORETICAL TRAINING		HANDS-ON TRAINING
	COMMON	SPECIFIC/TYPE	
TYPE 1	2 HOURS	2 HOURS	MINIMUM 2 HOURS. RATIO 0.5 H/ATTENDEE
TYPE 2		4 HOURS	MINIMUM 4 HOURS. RATIO 1 H/ATTENDEE

The update (**RECYCLING**) must be carried out every five years.

The duration of the update period (**RECYCLING**) must be at least that established in the table:

	THEORETICAL TRAINING		HANDS-ON TRAINING
	COMMON	SPECIFIC/TYPE	
TYPE 1	1 HOUR	1 HOUR	MINIMUM 1 HOUR. RATIO 0.25 H/ATTENDEE
TYPE 2		2 HOURS	MINIMUM 2 HOURS. RATIO 0.5 H/ATTENDEE

9 ACCREDITATION OF APTITUDE

The operator of a work equipment that has received sufficient training for the use of the equipment must be certified as having successfully passed the tests.

The certificate must include:

- Name of the training company and/or people who have provided it
- type of handling trucks and locations for which this training is considered valid
- any limitation that is considered appropriate to include, either due to special circumstances of the operator evaluated or other circumstances that are considered to be of special interest
- content of the training received, its duration and the place and dates in which it has been carried out
- Expiry date

2.38. LIFTING PLATFORM OPERATION

LIFTING PLATFORM OPERATION THEORETICAL - PRACTICAL RECYCLING: 5 YEARS	
Adjusted to the content of the UNE 58923 standard	
5 TRAINING PROGRAM	
5.1 BASIC CONTENT OF THE THEORETICAL TRAINING	
a) Legislation and regulations regarding the use of this work equipment (b) Classification and types of MEWPs (c) Characteristics and descriptions of MTSPs d) Applications (e) Safety before starting up the equipment - inspections before work begins - Location - leveling, stability - checking the equipment (f) Command posts - access to command posts - Types of control (g) working environment - area where the work is carried out - Signalling of the manoeuvre - areas near power lines h) levelling - with/without stabilizers (i) Main hazards and risk factors - stabilizer positioning - ground failure - exceeding maximum capacity - Wind effect - Fall of people due to equipment failures, hydraulic, mechanical, etc. - Falling people due to misuse - Blows against objects - limb entrapment - improper electrical contacts - translation movement of MEWPs (j) Protection and prevention measures	

- Equipment safety systems
- indicators
- Limiters
- Emergency stop
- familiarization
- (k) safety standards due to other risks
 - burns
 - noise
 - inhalation of gases
- (l) Commissioning
 - Intended uses
 - Safety and rescue systems
- m) Specific rules for safety in use
- (n) safety standards at the end of the work
 - securing the MEWP against misuse
 - Transportation
- (o) Personal protective equipment
- p) Maintenance
- q) Revisions

5.2 BASIC CONTENT OF THE PRACTICAL TRAINING

the operator must carry out real movements with the type of MEWP in which it is to be certified with the following minimum content:

- Machine Introduction
- Recognition of the environment and signage of the work area
- Visual recognition of the machine's perimeter
- Main components: identification and function
- Pre-use checks and inspection, in accordance with the manufacturer's instruction manual
- Starting and stopping the machine
- correct operating procedures for each of the safety functions
- manoeuvrability of the machine on the practice track (see Annexes B, C and D)
- rescue and emergency lowering procedures
- proper procedure for parking the machine in its transport position

6 TYPES OF CERTIFICATES

Once the operator has passed the **theoretical and practical evaluation** carried out on the requirements of chapter 5 of this standard, a **CERTIFICATE WILL BE ISSUED**, by the training entity certified according to this standard, of the operator's aptitude according to the types of MEWP in which the practical part has been carried out.

7.2 COURSE DURATION

The minimum duration of the training, in all cases, must have the following structure:

- **THEORETICAL TRAINING:** It may be taught in person or through tele-training with a minimum duration of four hours, and with a face-to-face exam for both training modalities.
- **PRACTICAL TRAINING:** Each type of certificate will consist of two parts:

1- EXPLANATION AND PRACTICAL DEMONSTRATION IN A GROUP OF THE HANDLING OF THE EQUIPMENT, WITH A MINIMUM OF 15 MIN. PER CATEGORY

2- PRACTICE PER STUDENT OF AT LEAST TWENTY MINUTES

8 RENEWAL OF THE CERTIFICATE

8.1 OPERATOR

Mobile elevating platform operator certificates for personnel will be **VALID FOR FIVE YEARS** from the date of their issuance, and may be **subject to RENEWAL FOR OTHER FIVE-YEAR PERIODS**.

The renewal course will be taught by a certified entity.

In all cases, the **DURATION OF THE RENEWAL TRAINING** must have the following structure:

- **THEORETICAL TRAINING:** It may be taught in person or through teletraining with a minimum duration of two hours, including face-to-face theoretical evaluation.
- **PRACTICAL EVALUATION:** It will be carried out per student and for each type of certificate.

2.39. OVERHEAD CRANE HANDLING

OVERHEAD CRANE HANDLING (DURATION 5 HOURS) THEORETICAL - PRACTICAL RECYCLING: 5 YEARS

Adjusted to the content of the UNE 58140 standard

5 DEVELOPMENT OF THE TRAINING

The duration and content of the training must be sufficient to achieve the objectives.

Training should be basically geared towards the practical aspect of handling (at least **75%** of the training time).

Conformed to NTP 737 content

TRAINING

OPERATOR TRAINING

TRAINING CONTENT

The training must include a theoretical program and a practical program.

The following topics must be included **in the** THEORETICAL PART:

- The operator
- Skills and responsibilities
- Your role within the materials handling team
- The technology of lifting devices: terminology and characteristics. The mechanisms, principles of operation, proper management, etc. Electrical control equipment, button panel, cabin, safety functions, controls and equipment. Slings: types, materials, safety, use, conservation and replacement. Safety devices: principles of operation and controls. Specific lifting accessories: types, uses, conservation and replacement
- The use of lifting devices and safety rules: start-up and stop procedures: start and end of the working day. Prohibited or dangerous manoeuvres. Manoeuvring signalling codes. Limit of use of lifting devices. Instructions specific to the work of the device and/or the place where it is used. Daily Checks
- Material handling: Means and devices for load apprehension. Practical rules of use. Manual guidance of loads. Loads: evaluation, center of gravity, balancing, influence of the wind. Most common handling operations. Load handling with various devices
- Controls, maintenance and breakdowns: Notions of maintenance and fault detection. Regular check-ups and daily check-ups. Reports on malfunctions. Behavior to follow in the event of a breakdown or power outage
- Instruction manual of the equipment to be used, technical data, nominal capacity, safety devices, etc.
- Knowledge and use of radio equipment for communication (if applicable)
- Operations manual that includes three stages: before the crane is put into operation, during the handling of the crane and its loads and at the end of the work.

In the **PRACTICAL PROGRAM**, a crane as similar as possible to the one to be used by the operator will be used, and if it is not identical, the differences will be clearly explained. It must include visual knowledge of the components, equipment and accessories indicated in the theoretical program and also include:

- Manipulation exercises:
 - Use of controls, handling aids and control devices
 - Execution of manoeuvres (idle and loaded).
 - Handling loads with specific accessories
 - Slings and load guiding exercises
 - Combination of manoeuvres (idle and loaded)
 - Load Balancing Control and Reduction
 - Command signalling exercises (gestures and radio, if applicable)
 - Coordination with the "signal manager" when required

DURATION OF TRAINING COURSES

The duration of the initial courses will depend on the type of crane, the complexity of the loads to be handled, and the initial experience of each candidate.

The same criteria as above would apply to the workshops.

In addition to the aforementioned initial training, refresher courses should be scheduled to verify that the operator maintains the knowledge acquired and always, when the operator has been absent from the job for a long time. In addition to the aforementioned courses, refresher courses should be held when there are changes in working conditions.

TRAINING EVALUATION

The knowledge acquired will be evaluated by means of an aptitude test. This evaluation will consist of a theoretical part, through a battery of multiple-choice questions and practical exercises on lifting, moving and locating standard loads that you will normally handle in the company.

2.40. HOIST MANAGEMENT

HOIST MANAGEMENT (DURATION 5 HOURS) THEORETICAL - PRACTICAL RECYCLING: 5 YEARS
1. Hoists. Definition, classification and types. Main technical characteristics. Applications. Capacities and limitations. 2. Maintenance of hoists, their tools and accessories: a. Tools: slings, slings, shackles, hooks and others. Applications and limitations b. Types of cargo. Weights and volumes. Calculating the estimated weight of the load c. Load stability 3. Main risks in the movement of cargo. Main prevention measures: Personal protective equipment Standardized symbols and signs on cranes and hoists in the work area

2.41. HANDLING OF HYDRAULIC ARTICULATED CRANES ON A TRUCK

HANDLING OF HYDRAULIC ARTICULATED CRANES ON A TRUCK (DURATION 5 HOURS) THEORETICAL - PRACTICAL RECYCLING: 5 YEARS
Adjusted to NTP 868 /869 content 6. OPERATOR Crane operation requires skill, knowledge, and experience. Entrust the operation of the crane only to people who comply with: • Physically and mentally fit (rested, not alcoholic, or under the influence of drugs or medications) • Able to operate the crane responsibly • Equipped with the necessary knowledge, training and adequate and sufficient information in the use of the crane and in the stowage (if applicable) • Able to demonstrate that they have received the necessary information to operate the crane and that they know the content of the user manual of both the crane and any accessories The manoeuvres of cranes entail great responsibilities and should therefore only be entrusted to capable people, free of physical contraindications (limitation of visual and hearing abilities, tendency to vertigo, physical impediments of another nature, etc.), equipped with speed of decision and reaction and who possess the necessary technical knowledge. In any case, there should be written evidence of the specific training received and the written authorisation of the employer, if applicable, to operate the corresponding work equipment. Therefore, a proposed theoretical/practical content could be: 1. Introduction 2. Types of Articulated Hydraulic Cranes 3. Operating principles 4. Risks and risk factors 5. Safety standards for operators 6. Application of pre-commissioning rules 7. Manoeuvres with the crane in vacuum 8. Cargo Handling 9. Signaller - crane operator Final practical evaluation

2.42. SLINGING MANOEUVRES

SLINGING MANOEUVRES (DURATION 3 HOURS) THEORETICAL/PRACTICAL RECYCLING: 5 YEARS	
1.	How to use and knowledge of slings and their CMU based on: - its constitution - of the number of branches and their angle of draught - Sling Form - of the sling/material dimensional ratio - of the material geometry - Know when to remove them from service
2.	Knowledge of useful accessories and how to use them: - Shackles - Eyebolts - Rockers/Racks/Gantries - Links - Corner protectors

2.43. TOWER CRANE HANDLING

TOWER CRANE HANDLING THEORETICAL - PRACTICAL RECYCLING: 5 YEARS	
Adjusted to the content of RD 836/2003, of 27 June, which approves a new Complementary Technical Instruction "MIE-AEM-2" of the Regulation of lifting and handling equipment, referring to tower cranes for works or other applications <i>Tower crane operator or crane operator card</i> 1. Purpose and scope of application. The purpose of this annex is to regulate the requirements and procedure for obtaining the tower crane operator's licence. 2. Crane operator or tower crane operator card. The operation of the tower cranes referred to in this ITC will require the possession of the tower crane operator's license. To obtain it, the procedure will be in accordance with the provisions of this annex. 3. Requirements for obtaining the card. To obtain the card, the following requirements must be accredited: Be of legal age Have the necessary knowledge for the operation of the tower crane Pass a medical exam on visual acuity, sense of orientation, balance and hearing acuity, and psychological skills For the accreditation of the knowledge required in section 2 above, one of the following routes may be chosen: The following requirements are met: To be in possession of a degree in compulsory secondary education or an equivalent qualification for employment purposes. Pass a theoretical-practical course taught by an entity authorized by the competent body of the autonomous community Pass an exam carried out by the competent body of the autonomous community To have a vocational training qualification or a certificate of professionalism included in the National Directory of Certificates of Professionalism, whose scope of competence includes the subjects covered by the Regulation on lifting and handling equipment, approved by Royal Decree 2291/1985, of 8 November, and of this Complementary Technical Instruction. Hold a certification granted by an entity accredited for the certification of persons by ENAC or any other National Accreditation Body designated in accordance with the provisions of Regulation (EC) No. 765/2008 of the European Parliament and of the Council, of 9 July 2008, which establishes the requirements for accreditation and market surveillance relating to the marketing of products and repealing Regulation (EEC) No. 339/93, in accordance with the UNE-EN ISO 17024 standard. All entities accredited for the certification of persons wishing to grant these certifications must include in their certification scheme an evaluation system that includes the minimum contents indicated in section 4 of this annex.	

Have the professional qualification of tower crane operator acquired in one or more other Member States of the European Union recognised, in accordance with the provisions of Royal Decree 581/2017, of 9 June, which transposes Directive 2013/55/EU of the European Parliament and of the Council, of 20 November 2013, into Spanish law, amending Directive 2005/36/EC on the recognition of professional qualifications and Regulation (EU) No 1024/2012 on administrative cooperation through the Internal Market Information System (IMI Regulation).

4. Theoretical-practical course.

4.1 The theoretical-practical course referred to in the previous section will have **a total duration of at least 200 hours, divided into a theoretical module of 50 hours and a practical module of 150 hours**, with the following programme:

Theoretical training:

Description of the tower crane and components (profiles, cables, ballasts, etc.)
 Definition of demountable tower crane. Classification. Structural composition. Pen
 Stability ballasts. Balances of ballasts. Conditions that must be met. Dough
 Steel cables. Manipulation. Grease. Inspections. Substitution
 Crane location. Base slopes. Via. Proximity of buildings and power lines. Installations with several cranes. Safety zone.
 Grounding
 Safety elements in cranes. Limiters. Torque moment safety. Maximum load safety. Weathervane setting
 In-service and out-of-service stability conditions
 Rigid braces. Elastic bracing
 Operation and handling. Obligations and prohibitions. Knowledge and characteristics. Load diagram. Calculating diagrams
 Tower crane maintenance and upkeep
 Regulation and commissioning
 Basic legislation: UNE regulations and standards

Practical training:

Driving rules (permitted and prohibited maneuvers)
 Occupational safety standards
 Performing daily and weekly safety and maintenance checks
 Operating a tower crane
 Handling a self-deploying tower crane

4.2 Persons who, within a period of one year, accredit professional experience in the operation of tower cranes by the company in which they acquired it will be exempt from carrying out the ordinary practical module of the course. The professional experience will be justified by accreditation from the company and, in this case, they must also take a practical module of 15 hours. It will not be necessary to justify section 3.b) of this annex.

5. Entities recognized to teach courses.

Entities that meet the following requirements may be recognised as an accredited entity to teach the theoretical-practical tower crane operator course:

Have the minimum means and resources necessary, both personal and material (competent personnel, premises, crane elements, motors, cables, bearings, profiles, installation and maintenance manuals, electrical and mechanical measuring devices and torque wrenches).

Have demountable and self-deploying tower cranes, owned or rented, for a minimum period equivalent to the duration of the course to be taught, in proper operation and for the exclusive use of the accredited entity.

6. Issuance and validity of the card.

6.1 The crane operator or tower crane operator card will be issued by the competent body of the Autonomous Community, once the applicant has accredited compliance with the requirements established in section 3 of this annex.

6.2 The card will be **valid for five years, after which it may be renewed for equal periods, subject to accreditation of the requirement established in section 3.c) of this annex.**

2.44. HANDLING OF SELF-PROPELLED MOBILE CRANE

HANDLING OF SELF-PROPELLED MOBILE CRANE THEORETICAL - PRACTICAL RECYCLING: 5 YEARS
Adjusted to the content of RD 837/2003, of 27 June, which approves the new amended and revised text of the Complementary Technical Instruction "MIE-AEM-4" of the Regulation on lifting and handling equipment, referring to self-propelled mobile cranes <i>Self-propelled mobile crane operator's licence</i> 1. Purpose and scope of application The purpose of this annex is to regulate the requirements and procedure for obtaining the self-propelled mobile crane operator's licence. 2. Self-propelled mobile crane operator's card ... for the assembly and operation of the self-propelled mobile cranes referred to in this ITC, possession of the self-propelled mobile crane operator's licence of at least a category equal to or higher than that corresponding to their nominal load shall be required. The card that is established is delimited into the following categories: Category A: enables its holder to assemble and operate self-propelled mobile cranes of up to and including 130 t nominal load. Category B: authorises its holder to assemble and operate self-propelled mobile cranes with a nominal load of more than 130 t. To obtain it, the procedure will be in accordance with the provisions of this annex. 3. Requirements for obtaining the card. To obtain the card, the following requirements must be accredited: 1. Be of legal age 2. Have the necessary knowledge for the operation of the tower crane 3. Pass a medical exam on visual acuity, sense of orientation, balance and hearing acuity, and psychological skills For the accreditation of the knowledge required in section 2 above, one of the following routes may be chosen: a) The following requirements are met: - i To be in possession of a degree in compulsory secondary education or an equivalent qualification for employment purposes. - ii Pass a theoretical-practical course taught by an entity authorized by the competent body of the autonomous community - iii Pass an exam carried out by the competent body of the autonomous community b) To have a vocational training qualification or a certificate of professionalism included in the National Directory of Certificates of Professionalism, whose scope of competence includes the subjects covered by the Regulation on lifting and handling equipment, approved by Royal Decree 2291/1985, of 8 November, and of this Complementary Technical Instruction. c) Hold a certification granted by an entity accredited for the certification of persons by ENAC or any other National Accreditation Body designated in accordance with the provisions of Regulation (EC) No. 765/2008 of the European Parliament and of the Council, of 9 July 2008, which establishes the requirements for accreditation and market surveillance relating to the marketing of products and repealing Regulation (EEC) No. 339/93, in accordance with the UNE-EN ISO 17024 standard. All entities accredited for the certification of persons wishing to grant these certifications must include in their certification scheme an evaluation system that includes the minimum contents indicated in section 4 of this annex. d) Have the professional qualification of tower crane operator acquired in one or more other Member States of the European Union recognised, in accordance with the provisions of Royal Decree 581/2017, of 9 June, which transposes Directive 2013/55/EU of the European Parliament and of the Council, of 20 November 2013, into Spanish law, amending Directive 2005/36/EC on the recognition of professional qualifications and Regulation (EU) No 1024/2012 on administrative cooperation through the Internal Market Information System (IMI Regulation). 4. Theoretical-practical course The course referred to in paragraph ii of the previous section will consist of a theoretical training module and a practical training module, with the following duration and content, according to the category:

a) Duration:

Category	Theoretical training (hours)	Hands-on training (hours)	Total training (hours)
A	75	225	300
B	150	300	450

For these purposes, holders of a category A self-propelled mobile crane operator's licence, in order to access a category B licence, will be counted as the time spent in the theoretical and practical training indicated for category A, and they must carry out the remaining period of practical training with self-propelled mobile cranes with a nominal load included in category B.

b) Theoretical training:

- Applicable regulations (Lifting and handling equipment regulations, ITC "MIE-AEM-4" and UNE standards)
- Description of the self-propelled mobile crane and components (boom, jib, stabilizers, cab and accesses, hooks, cables, etc.). General operation
- Types of self-propelled mobile crane. Classification. Differences between telescopic and lattice cranes
- Notions of material resistance (forces, moments, stability). Center of gravity Moment of overturn. Weight calculation. Welding. Profiles (angular, square, round)
- Notions of electricity (effects, protections)
- Notions of maintenance. Oil and water levels. Tire pressure. Injection equipment and pumps. Mechanical, electrical or hydraulic operating systems. Cooling, lubrication and brake systems
- Safety elements of self-propelled mobile cranes (load indicator and limiter, radio indicator, movement limiters, etc.). Safety coefficients
- Assembly and disassembly of self-propelled mobile cranes. Boom extension mechanisms. Special assembly procedures (lattice cranes, jibs, etc.)
- Location of the crane in the work area (overview of the environment, slopes, power lines, underground pipes, ground resistance, etc.)
- Attachment tools: choice of the most appropriate method, conservation and maintenance (steel slings, chains, polyester slings, shackles). Checks and marking. Ways to block the load. Special tools (rockers)
- Normal operations with the crane (strangling, leveling, interpretation of load diagrams, signals, etc.). Prohibited maneuvers
- Special operations with the crane (piling, lifting a load with more than one crane, moving with the crane fully assembled and deployed, lifting a load without outriggers, demolition and demolition with a ball). Indoor Precautions
- Crane operations with proximate hazards (slopes, overhead power lines, airports, railways, roads, industrial process plants, etc.)
- Daily, weekly and semi-annual checks. Maintenance and upkeep of the self-propelled mobile crane (lifting system and vehicle). Wire rope inspections and replacement Checking of hydraulic system and non-return valves
- Duties and responsibilities of the self-propelled mobile crane operator, the stretcher or strobber and the manoeuvre manager
- Prevention of occupational risks: safety in service. Safety with wind. Signage. Moving with loads. Control of security measures. Work teams

c) Practical training:

- Contact with the crane. Explain the commissioning to operate from the structure. Movements from the rotating structure in vacuum and with load
- Driving rules (permitted and prohibited maneuvers). Signs
- Performing daily and weekly safety checks
- Operations with security systems. Use of the crane's electronic control system ('on-board computer')
- Crane maintenance: different grease points, oil level check, cleaning, etc.
- Exercises to stabilize the crane in different types of terrain. Moving Deployed Crane with Load and Empty
- Jib assembly and its use
- Training in handling with loads: simulation of tower crane assembly, knocking down or lifting cement silo, concreting with cauldron, unloading brick pallets, etc.
- Sling practices: recognition of the different types of slings, slings, shackles, chains, hooks, and their correct use
- Road driving: mountain passes, long slopes and ramps, etc.
- "Off-road" driving: use of reduction gears and locks
- Reconnaissance of different types of terrain
- Occupational safety standards

6. Issuance and validity of the card

6.1 The self-propelled mobile crane operator's licence will be issued by the competent body of the Autonomous Community, once the applicant has accredited that he or she has acquired the knowledge through one of the channels established in section 3 of this annex; as well as the requirements established in the same point.

6.2 The card will be valid for five years, after which it may be renewed for five-year periods, subject to accreditation of the requirement established in section 3.3 of this annex.

In addition, for route c) of demonstration of knowledge through the certification of persons by accredited entity, the person's certificate must be valid at the time of renewal of the license.

2.45. CHAINSAW HANDLING

CHAINSAW HANDLING (DURATION 4 HOURS) THEORETICAL - PRACTICAL RECYCLING: 5 YEARS
1. Safety Devices and Components 2. General recommendations 3. PPE, analysis of the appropriate level of protection for the specific equipment. 4. Chainsaw Transport 5. Preparing for Work 6. Commissioning. 7. Basic precautions during work (grip, posture, place, use) 8. Risks and preventive measures 9. Carrying out practices for the correct use of the machine

2.46. HANDLING OF BRUSH CUTTER

HANDLING OF BRUSH CUTTER (DURATION 4 HOURS) THEORETICAL - PRACTICAL RECYCLING: 5 YEARS
1. Safety Devices and Components 2. General recommendations 3. PPE, analysis of the appropriate level of protection for the specific equipment. 4. Transporting the brush cutter 5. Preparing for Work 6. Commissioning. 7. Basic precautions during work (grip, posture, place, use) 8. Risks and preventive measures 9. Carrying out practices for the correct use of the machine

2.47. FORESTRY MACHINIST

FORESTRY MACHINIST (DURATION 20 HOURS) THEORETICAL - PRACTICAL
The TRAINING CONTENT (as a guideline) would be: I. THE PREVENTION OF OCCUPATIONAL RISKS IN FORESTRY WORK. CHARACTERISTICS OF THE SECTOR 1. Introduction to Occupational Risk Prevention 2. Characteristics of the sector 1.1. Characteristics of forestry activity 1.2. The problems of the sector 1.3. Description of the main tasks in forest harvesting II. GENERAL RISK FACTORS IN FOREST HARVESTING WORK AND PREVENTIVE MEASURES. EMERGENCY MEASURES AND FIRST AID 1. General risk factors in forest harvesting work and preventive measures 1.1. Outdoor work

- 1.2. Ground Conditions
- 1.3. Portable machinery
- 1.4. Forestry machinery
 - 1.4.1. Forestry machinery management
 - 1.4.2. Maintenance of forestry machinery and traction equipment
 - 1.4.2.1. Machinery maintenance
 - 1.4.2.2. Tools, machines and element handling in the workshop
 - 1.4.3. Moving forestry machinery
 - 1.4.3.1. Circulation on public roads
- 1.5. Ergonomic factors
- 1.6. Organization of work
- 1.7. Forest fire
2. Emergency measures and first aid
 - 2.1. Emergency plans
 - 2.2. First aid
- III. SAFETY STANDARDS IN THE USE OF MACHINERY FOR FOREST HARVESTING. PERSONAL PROTECTIVE EQUIPMENT
 1. Forestry machinery
 - 1.1.1. The forestry tractor (skkider)
 - 1.1.1.1. Safety features and elements
 - 1.1.1.2. Safety standards to follow in the use and operation of forestry tractors
 - Job Risk Assessment (Generic)
 - Auxiliary means (Machine or work equipment tools...)
 - Work equipment and tools: risks and preventive measures
 - Maintenance and verifications, manufacturer's manual, characteristics of the main elements, safety devices, documentation, lifting systems, etc.
 - Means of collective protection (placement, uses, obligations and maintenance)
 - 1.1.2. The processor
 - 1.1.2.1. Safety features and elements
 - 1.1.2.2. Safety rules to be followed in the use and operation of the machine
 - Job Risk Assessment (Generic)
 - Auxiliary means (Machine or work equipment tools...)
 - Work equipment and tools: risks and preventive measures
 - Maintenance and verifications, manufacturer's manual, characteristics of the main elements, safety devices, documentation, lifting systems, etc.
 - Means of collective protection (placement, uses, obligations and maintenance)
 - 1.1.3. The self-charger
 - 1.1.3.1. Safety features and elements
 - 1.1.3.2. Safety rules to be followed in the use and operation of the machine
 - Job Risk Assessment (Generic)
 - Auxiliary means (Machine or work equipment tools...)
 - Work equipment and tools: risks and preventive measures
 - Maintenance and verifications, manufacturer's manual, characteristics of the main elements, safety devices, documentation, lifting systems, etc.
 - Means of collective protection (placement, uses, obligations and maintenance)
 - 1.1.4. The chipper
 - 1.1.4.1. Safety features and elements
 - 1.1.4.2. Safety rules to be followed in the use and operation of the machine
 - Job Risk Assessment (Generic)
 - Auxiliary means (Machine or work equipment tools...)
 - Work equipment and tools: risks and preventive measures
 - Maintenance and verifications, manufacturer's manual, characteristics of the main elements, safety devices, documentation, lifting systems, etc.
 - Means of collective protection (placement, uses, obligations and maintenance)
 - 1.1.5. The Packing Machine
 - 1.1.5.1. Safety features and elements

1.1.5.2. Safety rules to be followed in the use and operation of the machine

- Job Risk Assessment (Generic)
- Auxiliary means (Machine or work equipment tools...)
- Work equipment and tools: risks and preventive measures
- Maintenance and verifications, manufacturer's manual, characteristics of the main elements, safety devices, documentation, lifting systems, etc.
- Means of collective protection (placement, uses, obligations and maintenance)

1.1.6. The brush cutter coupled to the PTO

1.1.6.1. Safety features and elements

1.1.6.2. Safety rules to be followed in the use and operation of the machine

- Job Risk Assessment (Generic)
- Auxiliary means (Machine or work equipment tools...)
- Work equipment and tools: risks and preventive measures
- Maintenance and verifications, manufacturer's manual, characteristics of the main elements, safety devices, documentation, lifting systems, etc.
- Means of collective protection (placement, uses, obligations and maintenance)

1.1.7. The Retro Spider

1.1.7.1. Safety features and elements

1.1.7.2. Safety rules to be followed in the use and operation of the machine

- Job Risk Assessment (Generic)
- Auxiliary means (Machine or work equipment tools...)
- Work equipment and tools: risks and preventive measures
- Maintenance and verifications, manufacturer's manual, characteristics of the main elements, safety devices, documentation, lifting systems, etc.
- Means of collective protection (placement, uses, obligations and maintenance)

2. Personal protective equipment (donning, uses, obligations and maintenance)

2.1. Forestry machinery driver

IV. SPECIFIC RISKS IN FOREST HARVESTING TASKS. PREVENTIVE MEASURES

1. Preliminary actions

- 1.1. Planning and organization of forestry work
- 1.2. Work area planning and inspection
- 1.3. Organization of work. Interference between machines
- 1.4. Auxiliary equipment

V. INTERNSHIPS

1. Development of practices for real use on the different equipment included in the training.

NOTE: this practical training would not qualify for the handling of the equipment, being the criterion of the entrepreneur who develops the activity to establish the criteria that would be added to this training for the authorization of the use of machinery. In this sense, the internships linked to this training may be carried out internally with the company's resources, and may be taught by a specialist machinist from the company in collaboration with the training entity.

2.48. CONSTRUCTION SECTOR WORKERS

CONSTRUCTION SECTOR WORKERS

GENERAL AGREEMENT OF THE CONSTRUCTION SECTOR

Mandatory in all activities of the construction sector.

Mandatory and general observance for all companies, entities and workers of the activities of the construction sector.

Applicable throughout the territory of the Spanish state.

Applicable to workers hired in Spain at the service of Spanish companies in the construction sector abroad.

**COMPANIES, ENTITIES AND WORKERS IN
THE CONSTRUCTION SECTOR**

**No MINIMUM
TEACHING
HOURS**

TEACHING MODE

TRAINING CONTENT OF THE FIRST CYCLE OF TRAINING		
INITIAL TRAINING		
1. Workers who provide their services in companies within the scope of application of this Agreement and who carry out their activity on construction sites, must have, at least, the initial training		
ALL	8	FACE-TO-FACE In order for the student to obtain the aptitude, it will be necessary for him or her to attend the entire training action. The aptitude of the training action will be subject to the passing of an aptitude assessment test
TRAINING CONTENT BY JOB OR TRADE		
SECOND CYCLE OF TRAINING		
1. It includes that inherent to the first cycle or initial training 2. Workers who carry out activities corresponding to any of the jobs or trades must take the training that corresponds to them depending on the job position or the trade or trades they exercise 3. In the second cycle training by trade, the existence of a common part and a specific part to be taught to workers who carry out multifunction and multipurpose activities is verified 4. Specific training actions of 6 teaching hours per trade may be developed for those workers who have previously taken: • a complete training action of 20 teaching hours of one of the trades, • have basic level training in construction prevention or • that they be recognized for the validation of the training of the common part of 14 hours in accordance with the stipulations 5. Those workers who perform tasks corresponding to jobs or trades not specified in this Agreement will have to carry out training in accordance with the risks and preventive measures associated with such tasks, following a structure similar to other trades developed in Annex XII, Section 2 of this General Agreement for second cycle training. and in accordance with the provisions of Article 10.2. of Law 32/2006, of 18 October, regulating subcontracting in the Construction Sector		
ALL		FACE-TO-FACE In order for the student to obtain the aptitude, it will be necessary for him or her to attend the entire training action. The aptitude of the training action will be subject to the passing of an aptitude assessment test
TRAINING CONTENT BY JOB		
Company management personnel	10	EXCEPTION: 1. MIXED PRESENCE-TELETRAINING: • Face-to-face: minimum 2.5 hours 2. Exceptionally: TELETRAINING
Site managers and execution technicians	20	
Middle management	20	
Prevention delegates	70	EXCEPTION: 1. MIXED PRESENCE-TELETRAINING: • Face-to-face: minimum 20 teaching hours
Administrative	20	EXCEPTION: 1. MIXED PRESENCE-TELETRAINING: • Face-to-face: minimum 5 hours
TRAINING CONTENT BY TRADE		
1) Masonry 2) Demolition and rehabilitation work 3) Formwork 4) Rebar 5) Plaster Coating	20 Common Part: 14 teaching hours Specific Part:	

6) Electricity, assembly and maintenance of HV and LV electrical installations 7) Plumbing and HVAC installations 8) Exterior cladding 9) Painting 10) Flooring and tiling 11) Lifting Appliance Operators 12) Earthmoving Vehicle and Machinery Operators 13) Manual Equipment Operators 14) Insulation and waterproofing work 15) Assembly of tubular structures 16) Operator of temporary construction and auxiliary installations: agglomerate, concrete, crushing and aggregate classification plants 17) Stabilization of esplanades and pavement pavement 18) Placement of covering materials 19) Road maintenance and operation 20) Tunneling and support of underground excavations and slopes 21) Special foundations, boreholes and boreholes 22) Railway construction and maintenance 23) Maritime work 24) Work on supply and sanitation networks and drinking 25) On-site precast concrete assembly work 26) Workshop operator of materials: industrial stones, treatment or transformation of materials, stonemasons and the like 27) Welding Work 28) Plaster fitter, laminated plasterboard and similar 29) Machinery and vehicle maintenance 30) Archaeology work 31) Manufacturing and assembly work of precast elements	6 teaching hours each of the specific parts	
TASK-SPECIFIC TRAINING		
First aid training in emergency teams	4	FACE-TO-FACE Necessary for those workers who are entrusted, within the emergency teams, with first aid tasks In order for the student to obtain the aptitude, it will be necessary for him or her to attend the entire training action The aptitude of the training action will be subject to the passing of an aptitude assessment test
Basic level of prevention in construction	60 (as of 06/09/2007, the date on which the IV CCGSC was subscribed, basic level training in this sector began to last 60 teaching hours)	EXCEPTION: 1. FACE-TO-FACE 2. MIXED PRESENCE-TELETRAINING: • Face-to-face: minimum 20 hours In any case, in order for the student to obtain the aptitude, it will be necessary for him or her to attend the entire training action The aptitude of the training action will be subject to the passing of an aptitude assessment test

APPROVAL OF TRAINING ENTITIES

- Both the first and second cycle training, the training for specific tasks, and the basic level training will be provided by the FLC, either directly or through the entities or companies that have obtained the approval of training activities in the field of occupational risk prevention, in accordance with the requirements established in the corresponding procedure set out in Annex XIV of this Agreement.
- They may request the approval of the training actions that are planned to be provided by entities that are constituted as external prevention services accredited by the labour authority, or by companies within the scope of application of this Agreement that have their own preventive organisation.
- The entities that plan to approve these training actions by the FLC to provide training in the field of occupational risk prevention, in accordance with the provisions of Chapter III of Title III of Book II of this Agreement, must meet the requirements established therein.
- Approval procedure according to Article 165 and Annex XIV

PROFESSIONAL CONSTRUCTION CARD

- Document issued by the Fundación Laboral de la Construcción that **is a way of accrediting**, among other data, the specific training received from the sector by the worker in the field of occupational risk prevention
- Prove that its holder has received at least initial training in occupational risk prevention
- Expires 5 years after issuance

VALIDATIONS

VALIDATION OF TRAINING IN OCCUPATIONAL RISK PREVENTION	
Training included in this agreement	Validation with respect to the preventive training specified in the VII CCGSC
Basic level training in construction prevention	- Initial training - Site managers and execution technicians - Middle management - Administrative - Common part of trades
Masonry training given following the criteria established in the agreement, prior to September 26, 2017	It validates the training of plaster assembly, laminated plasterboard and similar.
Second-cycle training by trade	Validate the common part of any of the other offices
Training included in the Prevention Services Regulations (amended by RD 337/2010), and 1161/2001, as well as training indicated in the "Technical Guide" of RD 1627/1997	Validation with respect to the preventive training specified in the VII CCGSC
Higher level training or university master's degree in ORP	- Initial training - Company management personnel - Site managers and execution technicians - Middle management - Prevention delegates - Administrative - Common part of trades - Basic level of prevention in construction
Intermediate level training or vocational training for Higher Technician in Occupational Risk Prevention (The official qualification of "Higher Technician in Occupational Risk Prevention" regulated by Royal Decree 1161/2001, has the same validity for the purposes of these validations)	- Initial training - Company management personnel - Site managers and execution technicians - Middle management - Prevention delegates - Administrative - Common part of trades - Basic level of prevention in construction
Entry-level training in the construction industry	- Initial training - Site managers and execution technicians - Middle management - Administrative - Common part of trades
Construction Site Health and Safety Coordinator	- Initial training - Site managers and execution technicians - Middle management - Administrative - Common part of trades

TRAINING INCLUDED IN THE STATE AGREEMENT FOR THE METAL SECTOR	
The validation of the training received by workers under the State Agreement for the Metal Sector, provided that it has been provided by the Fundación Laboral de la Construcción or by an entity with the training approved by the FMF or the FLC, in accordance with the requirements established in their respective agreements, is set out in the following table:	
Preventive training included in Annex IV of the State Agreement for the Metal Sector	Validation with respect to the training in occupational risk prevention specified in the VII CGSC
First cycle of training: Basic Level	First cycle of training: Initial Level
Company managers	Company managers
Managers and technicians for the execution of the activity	Managers and technicians for the execution of the activity
Middle management	Middle management
Administrative	Administrative
Rebar	Rebar
Electricity, relating to assembly work and mto. HV and LV electrical installations	Electricity, assembly and maintenance of HV and LV electrical installations
Plumbing and HVAC installations	Plumbing and HVAC installations
Lifting Appliance Operators	Lifting Appliance Operators
Manual Equipment Operators	Manual Equipment Operators
Insulation and waterproofing	Insulation and waterproofing
Assembly of tubular structures	Assembly of tubular structures
Railway construction and maintenance	Railway construction and maintenance
Maintenance work on machinery and vehicles on construction sites	Maintenance of machinery and vehicles on construction sites
Basic level of prevention of metal activities in construction	Basic level of prevention in construction
Elevator installation	They will produce the validation of the common part of trades in the construction sector
Installations, repairs, assemblies, metal structures, locksmith and metal carpentry	
Telecommunications installations	
Work on gas pipelines and fuel gas distribution networks	
Fire equipment installation work	
TRAINING INCLUDED IN THE STATE COLLECTIVE AGREEMENT FOR THE TIMBER SECTOR	
The validation of the training received by workers under the State Agreement for the Wood Sector, provided that it has been given by the Fundación Laboral de la Construcción or by an entity with the training approved by it, is set out in the following table:	
Training contents FLMM Agreement	Training contents General Agreement of the Construction Sector
Initial training (8 hours)	Permanent classroom or initial level (8 hours)
Basic level training (50 hours. RD 39/1997)	Basic level training (60 hours. Since September 2007)
Managers (10 hours)	Company managers (10 hours)
Managers and technicians for the execution of the activity (20 hours)	Site managers and execution technicians (20 hours)
Middle Managers (20 hours)	Middle Managers (20 hours)

In addition to the above, there are other types of validations expressly included in various tables in the Agreement, which must be consulted if necessary. By way of example, they are as follows:

1. Training included in vocational training qualifications and certificates of professionalism
 - Table 1: Recognition summary table
 - Table 2: Recognitions for the old vocational training qualifications (LOGSE and Previous) in the educational system corresponding to the professional family of building and civil works
 - Table 3: Recognitions for new vocational training qualifications (LOE) in the education system corresponding to the professional family of building and civil works

- Table 4: Recognitions for certificates of professionalism for the professional family of building and civil works
- Table 5: Recognitions for certificates of professionalism from other professional families.
- Table 6: Recognition for old vocational training qualifications (LOGSE and earlier) in the education system corresponding to other professional families
- Table 7: Recognition for new vocational training qualifications (LOE) in the education system corresponding to other professional families
- Table 8: Recognitions for former certificates of professionalism and specialities of the public employment service

2. Training included in the General Regulations of Basic Mining Safety Standards

The validation of the training included in ITC 02.1.02, provided that it has been given by the Fundación Laboral de la Construcción or by an entity with the training approved by it, is set out in the following table:

- Validation of training

2.49. METAL SECTOR WORKERS

METAL SECTOR WORKERS

STATE COLLECTIVE AGREEMENT FOR THE INDUSTRY, TECHNOLOGY AND SERVICES OF THE METAL SECTOR (CEM)

All companies and workers who carry out their activity, both in manufacturing, processing or transformation processes, as well as in those of assembly, repair, conservation, maintenance, storage or commissioning of industrial equipment and facilities, which are related to the Metal Sector.

- In this way, **the following activities and products** are integrated into the scope of application of **this Agreement**: metallurgy, steel; automotive and its components; shipbuilding and its auxiliary industry; aerospace industry and its components, as well as railway equipment, renewable energy components; robotics, home automation, automation and its programming; computers and their peripherals or auxiliary devices; printed circuits and integrated and similar articles; technological infrastructures; telecommunications and information equipment and technologies; and all types of mechanical, electrical or electronic equipment, products and appliances, including the maintenance and manufacture of unmanned systems, whether autonomous or directed (drones).

- **This scope also includes** companies engaged in engineering, engineering technical services, analysis, inspection and testing, manufacturing, assembly and/or maintenance, which are carried out in industry and in electricity generation, oil, gas and water treatment plants; as well as companies dedicated to the laying of power lines, telephone, computer, satellite cables and networks, signalling and electrification of railways, electrical and instrumentation installations, air conditioning and industrial refrigeration, plumbing, heating; manufacture, installation and assembly of security systems (anti-theft and fire) and other auxiliary and complementary activities of the Sector.

- It also **includes the activities** of welding and joining technologies, heat insulation, tower cranes, solar panels, and those of jewelry, watches or costume jewelry; toys; cutlery and kitchenware; locksmithing; weapons; medical devices; optical industry and precision mechanics; lamps and electrical appliances; conservation, cutting and replacement of meters; recovery and recycling of secondary metal raw materials, as well as those other specific activities and/or complementary to the Sector.

- Likewise, **the activities** of manufacture, installation, maintenance, or assembly of industrial equipment, metal carpentry, boilermaking, mechanization and automation, the lifting subsector, stairs, mechanical belts and walkways included in the Sector or in any other that requires such services, as well as the cleaning of industrial machinery, are included.

- Similarly, **the activities** of repair of mechanical, electrical or electronic devices; maintenance and repair of vehicles; ITV and those of an auxiliary, complementary or related nature, directly related to the Sector.

- It will also be **applicable to the** metal graphic industry and the manufacture of metal containers and bots, when sheet metal with a thickness greater than 0.5 mm is used in its manufacture.

- The **sector also includes** the manufacture, assembly, maintenance and repair of installations, elements or components for the generation and/or distribution of electrical energy.

- **Companies dedicated to the sale of articles in the exclusive marketing process** will be excluded from the scope of the Agreement.

• **All those companies that, by virtue of any type of contract, have several main activities, some of which are included in the functional scope of this Agreement, will also be affected, and the same will be applicable to the workers who carry out these activities.**

• Companies that by any type of contract carry out activities in the Sector **on a regular basis (not occasional or ancillary)**, will also be affected by the functional scope of this Agreement, even if none of these activities were main or prevalent.

• The aforementioned activities integrated into the scope of application of this State Agreement are included in **Annex I. The CNAEs included in this Annex** are illustrative and not exhaustive, and may be extended, reduced or supplemented by the negotiating committee depending on the changes that occur in the National Classification of Economic Activities.

• In those workplaces related to the maintenance and repair of vehicles in which this activity coincides with the sales activity, the CEM will be applied to workers who carry out the maintenance and/or repair activity.

• Applicable throughout Spain.

• It will also affect workers hired in Spain at the service of Spanish companies abroad.

It is distinguished between:

- A. Minimum training content on occupational risk prevention for workers in the metal sector whose activity is **NOT** carried out on construction sites
- B. Minimum training content on occupational risk prevention for workers in the metal sector whose main activity is carried out on construction sites
- C. Recognition of the training received by workers on the consideration of the workplace as a construction site, and carry out their activity in a different workplace, and vice versa

A. MINIMUM TRAINING CONTENT ON OCCUPATIONAL RISK PREVENTION FOR WORKERS IN THE METAL SECTOR WHOSE ACTIVITY IS NOT CARRIED OUT ON CONSTRUCTION SITES

WORKERS IN METAL SECTOR COMPANIES WHO DO NOT CARRY OUT WORK ON CONSTRUCTION SITES	No TEACHING HOURS	TEACHING MODE
Managers	6	<i>Face-to-face or tele-training</i>
Workers who perform their jobs in offices	6	<i>Face-to-face or tele-training</i>
Workers in trades in the production and/or maintenance areas. Vocational training	20 (12 core + 8 position- specific)	<i>Face-to-face</i>
Workers with entry-level preventive functions (Delegates of Prevention and Components of the CSS)	50	<i>Face-to-face (content related to the activity of workers in the production and/or maintenance area with a duration of 20 hours)</i> <i>The rest of the hours can be taught until reaching 50 in teletraining mode</i>
Recycling Training (every 4 years)	4	<i>Face-to-face</i> <i>(Managers and Office Staff may be by teletraining)</i>

Production Area Trades:

- C.1) Activities of CNAE 24: inter alia, work of manufacture, production and processing of iron, steel and non-ferrous metals, and first processing (steel manufacturing, metal casting, mould making, tube manufacturing and the like)
- C.2) Activities of CNAE 30.1 and 33.15: shipbuilding, repair and maintenance work in shipyards and docks
- C.3) For operators in forging work
- C.4) For operators in welding and flame cutting work
- C.5) For operators of machining machines
- C.6) For operators of abrasion machining machines
- C.7) For operators of metal forming and cutting machines
- C.8) For operators in surface treatment activities of metal parts: degreasing, cleaning, pickling, coating, painting
- C.9) For operators in pre-assembly, assembly, format change and assembly activities in factories
- C.10) For metal joinery work
- C.11) For jewellery workers

- C.12) For mechanical work, mto. and repair of machines, industrial equipment and/or electromechanical equipment (aerospace industry, etc.)
- C.13) For work in vehicle repair shops
- C.14) For installation, maintenance and repair work of computer equipment, automation and its programming, computers and their peripherals or auxiliary devices; telecommunications and information equipment and technologies, information and data networks (ICTs)
- C.15) For installers and repairers of electrical lines and equipment
- C.16) For plumbing work, heating-air conditioning installations, domestic hot water installations and solar thermal installations
- C.17) For maintenance, repair and installation of lifts
- C.18) For insulation and waterproofing work
- C.19) For the assembly of tubular structures
- C.20) For the construction and maintenance of railways
- C.21) For installation, maintenance and repair work on telecommunications infrastructures (ICT and digitalisation)
- C.22) For work on gas pipelines and fuel gas distribution networks
- C.23) For work on other types of installations such as photovoltaic solar installations or wind installations
- C.24) For recovery and recycling work of secondary metal raw materials
- C.25) For quality control, verification and inspection work on materials in the process of manufacture and on finished products in the sector
- C.26) For drivers/carriers
- C.27) For forklift drivers
- C.28) For overhead crane operators
- C.29) For operators of lifting platforms
- C.30) For warehouse operators, logistics and procurement in manufacturing processes (including but not limited to: packaging, product preparation, reprocessing, with or without the help of mechanical elements and other tasks of procurement and supply of materials and components)
- C.31) For drivers of self-propelled mobile cranes.
- C.32) For activities that are not expressly regulated in this agreement

NOTES:

1. In the event that **the worker's main activity is made up of several activities linked to different trades**, the training module that brings together the highest percentage or time of the service will be taught, and the training content **of the different activities that make up the general provision of the job must be completed within 4 years**.
2. **C.32) Training content for activities that are not expressly regulated in this Agreement:**
 - 2.1. Preventive training for activities that are not expressly regulated in this Agreement will have an impact, among others, on the risks of the activity and their corresponding preventive measures. In any case, for the design and delivery of preventive training, the contents established for the core part and the specific part regulated in sections C. 1 and C. 2 will be taken into account.
 - 2.2. The minimum training content for activities not expressly regulated in this Agreement will include the core part established in section c) 3.1., with a duration of 12 hours, and a specific part of eight hours in accordance with the provisions of section c) 3.2 depending on the non-regulated activity, and will be taught in face-to-face mode.
3. In the event that the worker's main activity is made up of several activities linked to different trades, the **general scheme of the recycling module** will ensure that the training covers all the risks and preventive measures associated with them.

CLARIFICATION:

Given that the required training regulation reads as MINIMUM training contents, in the specific cases of the trades *C.27) For forklift truck drivers / C.28) For overhead crane operators / C.29) For operators of lifting platforms / C.31) For drivers of self-propelled mobile cranes*, the training required here must be understood, forgive the redundancy, as MINIMUM, and must be complemented, in each case, with the specific training contemplated in the corresponding module of this document **VALIDATION CRITERIA CAE TRAINING REQUIREMENTS: CONTENTS:**

- Truck handling and lifting loads
- Overhead crane handling
- Lifting platform operation
- Self-propelled mobile crane operation

B. MINIMUM TRAINING CONTENT ON OCCUPATIONAL RISK PREVENTION FOR WORKERS IN THE METAL SECTOR WHOSE MAIN ACTIVITY IS CARRIED OUT ON CONSTRUCTION SITES

WORKERS OF COMPANIES THAT <u>DO</u> PERFORM WORK ON CONSTRUCTION SITES	No TEACHING HOURS	TEACHING MODE
TRAINING CONTENT OF THE FIRST CYCLE OF TRAINING: INITIAL LEVEL		
All	8	Face-to-face (Annex V)
TRAINING CONTENT DEPENDING ON THE POSITION. SECOND CYCLE OF TRAINING		
All		
Managers	10	ANNEX V 1. Face-to-face 2. Mixed: - On-site: 2.5 hours - Teletraining: 7.5 hours 3. Exceptionally: teletraining
Managers and technicians for the execution of the activity	20	Face-to-face
Middle management	20	Face-to-face
Prevention delegates	50	IT DOES NOT SPECIFY IT
Administrative	20	ANNEX V 1. Face-to-face 2. Mixed: - Face-to-face: 5 hours - Teletraining: 15 hours
Training by job or trade. Activities of the Metal Sector in construction sites: - Rebar - electricity, relating to the assembly and maintenance of high and low voltage electrical installations - plumbing and air conditioning installations - Elevator Installation - Lifting Operators - Manual Equipment Operators - installations, repairs, assemblies, metal structures locksmithing and metal carpentry - Insulation and waterproofing work - Tubular structure assembly work - construction and maintenance work on railways - Maintenance work on machinery and vehicles on construction sites - Work on telecommunications installations - Work on gas pipelines and fuel gas distribution networks	20 The 20-hour training includes the 8-hour permanent classroom training	ANNEX V Face-to-face The specific training by trades of 6 hours will be developed in the Face-to-face modality
Basic level of prevention of metal activities in construction	60	ANNEX V 1. Face-to-face 2. Mixed: - Face-to-face: 20 hours (It will be comparable to the First Cycle (8 hours) and 14 hours of the Second Cycle. In this case, for the recognition of specific training related to a job or trade of this Second Cycle, the worker must receive 6 additional hours of training in face-to-face mode) - Tele-training
Recycling Training (every 4 years)	4	ANNEX IV MANDATORY for:

		• Technical staff • Administrative • Middle management • Trades Personnel 1. Face-to-face 2. (administrative teletraining modality is admitted)
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NOTES

1. In the event that the worker's main activity is made up of several activities linked to different trades, the **general scheme of the recycling module will ensure** that the training covers all the risks and preventive measures associated with them.

In order to **avoid duplication in the training** of workers, those who have received it on the consideration of the workplace as a construction site, and carry out their activity in a different workplace or, on the contrary, will proceed to a recognition of said training received as established in the following table.

C. RECOGNITION OF THE TRAINING RECEIVED BY WORKERS ON THE CONSIDERATION OF THE WORKPLACE AS A CONSTRUCTION SITE, AND CARRY OUT THEIR ACTIVITY IN A DIFFERENT WORKPLACE, AND VICE VERSA

TRAINING AT ORIGIN	ACCESS TO:	PREREQUISITES
Basic metal level course (50 hours)	Basic construction level course (60 hours)	14-hour module on the core part of trades defined as the basic pattern. (Annex VI section B agreement)
Basic metal level course (50 hours)	Construction trade course (20 hours)	Specific trade part module (6 hours)
Basic construction level course (60 hours)	Basic metal level course (50 hours)	Automatic validation
Basic construction level course (60 hours)	Metal trade course (20 hours)	Specific trade part module (8 hours)
Construction trade course (20 hours)	Metal trade course (20 hours)	Specific trade part module (8 hours)
Metal trade course (20 hours)	Construction trade course (20 hours)	Specific trade part module (6 hours)

PROFESSIONAL CARD AND APPROVAL OF TRAINING ENTITIES

PROFESSIONAL CARD FOR THE METAL SECTOR	PROFESSIONAL CONSTRUCTION CARD FOR THE METAL SECTOR
Have received at least one of the training modules set out in Annex II	Have received at least the minimum initial training established in Annex IV
Expires after 5 years	Expires after 5 years

APPROVAL OF TRAINING ENTITIES. REQUIREMENTS	APPROVAL OF TRAINING ENTITIES. REQUIREMENTS
The FMF may request the approval of the preventive training provided by entities that are constituted as SPAs accredited by the labour authority, or companies framed in the sectors of activity established in this Agreement, and that have their own preventive organisation	The FMF may request the approval of the preventive training provided by entities that are constituted as SPAs accredited by the labour authority, or companies in the sectors of activity established in article 95.1 of this Agreement, and that have their own preventive organisation

CRITERIA RELATING TO THE TRAINING OF WORKERS IN THE METAL SECTOR WORKING ON CONSTRUCTION SITES IN THE FIELD OF OCCUPATIONAL RISK PREVENTION: VALIDATIONS

1. VALIDATION OF THE TRAINING OF WORKERS IN THE METAL SECTOR IN RELATION TO THAT INCLUDED IN THE REGULATIONS ON PREVENTION SERVICES, AS WELL AS THAT RECEIVED BY HEALTH AND SAFETY COORDINATORS

VALIDATION OF PREVENTIVE TRAINING FOR METAL	
Intermediate level training	– Initial training – Management Staff – Site managers and execution technicians – Middle management – Prevention delegates – Administrative – Common core of trades (14 hours) – Basic level course
Higher level training	– Initial training – Management Staff – Site managers and execution technicians – Middle management – Prevention delegates – Administrative – Common core of trades (14 hours) – Basic level course
50-hour entry-level training delivered after 1 January 1998 through 31 December 2009	– Initial training – Site managers and execution technicians – Middle management
60-hour entry-level training	– Administrative – Common core of trades (14 hours)
Health and Safety Coordinator	– Initial training – Site managers and execution technicians – Middle management – Prevention delegates – Administrative – Common core of trades (14 hours)

2. VALIDATIONS OF THE SECOND CYCLE TRAINING SPECIFIED IN THE STATE AGREEMENT FOR THE METAL SECTOR

In the second cycle training by trade there is a **common or core part**, with a duration of **14 hours** and a **specific part** that lasts **6 hours**.

The specific training **by trades of six hours** will be developed in the **face-to-face** modality.

On the **specific part**, training content is established for the following jobs or trades:

- Iron
- plumbing and air conditioning installations
- Lifting Operators
- Manual Equipment Operators
- installations, repairs, assemblies, metal structures locksmithing and metal carpentry
- Insulation and waterproofing work
- Tubular structure assembly work
- construction and maintenance work on railways
- Maintenance work on machinery and vehicles on construction sites
- Work on telecommunications installations
- Work on gas pipelines and fuel gas distribution networks

3. EXCEPTIONS FOR THE TRAINING CONTENTS OF ELECTRICITY, ASSEMBLY AND MAINTENANCE OF HP AND LV, AND FOR THE INSTALLATION OF LIFTS

In the event that a worker **has received basic level training** in metal activities in construction, the specific training of the Second Cycle of the electricity module: assembly and maintenance of HV and LV installations or that of the elevator installation module will be recognized **with an additional face-to-face training of six hours** per module in accordance with the specific contents defined in this section C of Annex VI.

- **With the exception of** electricians or assembly and maintenance operators of HV and LV installations and installers of lifts or goods lifts, **specific training actions of 6 hours may be carried out** for those jobs or trades and for those workers **who, previously, have completed a complete training action of 20 hours**.
- As a result of the fact that the contents of the training action for manual equipment operators are included, for the most part, in the different related trades, it is not considered necessary to repeat them.

In any case, the 20-hour training actions for workers who only wish to perform one of the trades are maintained

2.50. DRONE HANDLING

DRONE HANDLING

CONSOLIDATED EUROPEAN REGULATIONS

- **Consolidated Implementing Regulation (EU) 2019/947** including the changes to Implementing Regulation (EU) 2020/639 and Implementing Regulation (EU) 2020/746, Implementing Regulation 2021/1166 and Implementing Regulation (EU) 2022/425
- **Consolidated Delegated Regulation (EU) 2019/945** including the changes to Delegated Regulation (EU) 2020/1058

NATIONAL REGULATIONS

Additionally, since June 25, 2024, the national UAS regulations apply. This regulation completes the legal regime applicable to the civilian use of UAS subject to European Union regulation, and regulates the activities excluded from European regulations

- **Royal Decree 517/2024, of 4 June**, which develops the legal regime for the civil use of unmanned aircraft systems (UAS), and amends various regulatory rules on the control of the import of certain products with respect to the applicable standards on product safety; civil air demonstrations; firefighting and search and rescue and airworthiness requirements and licences for others aeronautical activities; civil aircraft registration; electromagnetic compatibility of electrical and electronic equipment; Air Regulations and Common Operating Provisions for Air Navigation Services and Procedures; and reporting of civil aviation events

DEFINITIONS / CLARIFICATIONS

- **AESA:** State Aviation Safety Agency
- **EASA (European Union Aviation Safety Agency):** EU Aviation Safety Agency
- **UAS (Unmanned Aircraft Systems):** Unmanned Aircraft Systems
- **U-SPACE AIRSPACE:** A geographical area of UAS designated by the Member States, in which UAS operations are only permitted to be carried out with the support of U-Space services
- **U-SPACE SERVICE:** service based on digital services and function automation designed to facilitate protected, efficient and safe access to U-Space airspace for a large number of UAS
- **MTOM:** The maximum UA take-off mass defined by the manufacturer or manufacturer, including payload and fuel, at which the UA can be used
- **NON-"EASA" ACTIVITIES OR SERVICES:** European regulations are not applicable to "non-EASA activities or services" so operators who carry out this type of activity must comply with the provisions of Royal Decree 517/2024
'Non-EASA activities or services' are those excluded from the scope of Regulation (EU) 2018/1139 of the European Parliament and of the Council, Article 2(3)(a), carried out by military, customs, police, search and rescue, firefighting, border control, coastal surveillance or similar services, under the control and responsibility of a Member State, undertaken in the public interest by or on behalf of a body vested with public authority
- **UAS OPERATOR:** any natural or legal person who uses or intends to use one or more UAS
- **REMOTE PILOT:** **natural** person responsible for the safe conduct of the flight of an UA by using their flight controls, either manually or, when the UA flies automatically, supervising its course with the power to intervene and change its course at all times

OPERATIONAL CATEGORIES

Implementing Regulation (EU) 2019/947 lays down the rules and procedures applicable to the use of unmanned aircraft.

Based on the level of risk of the operations, three operational categories are established: **'open' category**, **'specific' category** and **'certified' category**.

1. OPEN CATEGORY UAS/DRONE OPERATIONS (Subcategories A1, A2 and A3)

The **'open' category** encompasses those low-risk UAS operations. Operations in the 'open' category do not require an operational authorisation from AESA or a declaration from the UAS operator before the start of the operation.

UAS operators, who reside if they are natural persons or who have their place of activity if they are legal persons in Spain, must register electronically through EASA's electronic headquarters when:

- Use in the **'open' category** any unmanned aircraft:
 - With an MTOM of 250 g or more, or which, in the event of a collision, can transfer to a human being a kinetic energy of more than 80 joules
 - equipped with a sensor capable of capturing personal data, unless it complies with Directive 2009/48/EC ("Toys Directive")
- Use an unmanned aircraft of any mass in the **'specific' category**

1.1. MINIMUM DOCUMENTATION NECESSARY TO CARRY OUT UAS OPERATIONS IN THE 'OPEN' CATEGORY

Any operator who intends to carry out operations in the 'open' category must have the following documentation:

- **UAS Registration Certificate and/or Proof of Operator Registration:** The operator registration number must be indicated on all UAS being operated in such a way that it can be read by the naked eye when the drone is on the ground. The registration number may be indicated in the battery compartment if the size of the UA does not allow it to be displayed on the outside or if it is a replica model aircraft of a real aircraft, and indicating the operator registration number on the fuselage would affect the realism of the representation.
- The operator's pilots must have **an A1/A3 (and A2 as applicable) remote pilot** training certificate
- **Liability insurance policy**
- In the event that the operator has more than one remote pilot, it must have procedures in place to coordinate activities among its employees and to establish and maintain a list of assigned personnel and tasks

1.2. THE 'OPEN' CATEGORY IS DIVIDED, IN TURN, INTO THREE SUBCATEGORIES: A1, A2 AND A3

1. OPERATIONS IN SUBCATEGORY A1 are carried out avoiding the overflight of non-participants and concentrations of people.

UAS suitable for flying within this subcategory must have one of the following characteristics:

- Be privately built with an MTOM <250 g and a maximum speed of less than 19 m/s
- Have an MTOM <250 g, without **class marking** and have been placed on the market before 1 January 2024, with the requirements:
 - If the maximum take-off mass of the unmanned aircraft is less than 250 g, including payload, operation in subcategory A1.
 - If the maximum take-off mass of the unmanned aircraft is less than 25 kg, including fuel and payload, operation in subcategory A3
- They must bear a class C0 marking label and therefore comply with the following technical requirements:
 - MTOM < 250 g
 - Maximum horizontal flight speed of 19m/s
 - Power Supply
- Bear a class C1 marking label and therefore comply with the following technical requirements:
 - MTOM < 900 g or transmitted energy in the event of an impact < 80
 - maximum speed in horizontal flight of 19m/s;
 - Power Supply
 - Unique serial number
 - Direct and Network Remote Identification System
 - Geo Consciousness System
 - Low battery warning system for unmanned aircraft and control station (CS)

2. OPERATIONS IN SUBCATEGORY A2 are carried out maintaining a horizontal safety distance of at least 30 m from persons not participating in the operation.

Operations in subcategory A2 shall only be carried out with UAS bearing the class C2 marking label, i.e. complying with the following characteristics:

- MTOM < 4 kg

- Except if it is a fixed-wing unmanned aircraft, be equipped with a selectable low-speed mode that limits the speed to a maximum of 3 m/s
 - Power Supply
 - Unique serial number
 - Direct and Network Remote Identification System
 - Geo Consciousness System
 - low battery warning system for the unmanned aircraft and control station (CS);
 - be equipped with a data link protected against unauthorized access to command and control functions (C2)
- Equip lights for attitude control and night flight

3. OPERATIONS IN SUBCATEGORY A3 are carried out in areas where no non-participating person is put at risk and at a minimum horizontal safety distance of 150 m from residential, commercial, industrial or recreational areas. Operations in subcategory A3 will be carried out with those UAS that meet any of the following requirements:

- Be privately built with a (MTOM <25 kg
- Without **class marking** and have been placed on the market before 1 January 2024, with the requirements:
 - If the maximum take-off mass of the unmanned aircraft is less than 250 g, including payload, operation in subcategory A1.
 - If the maximum take-off mass of the unmanned aircraft is less than 25 kg, including fuel and payload, operation in subcategory A3
- Carry a class C2 marking label
- They must bear a class C3 marking label and therefore comply with the following technical requirements:
 - MTOM < 25 kg and a maximum dimension of less than 3 m
 - Power Supply
 - Unique serial number
 - Direct and Network Remote Identification System
 - Geo Consciousness System
 - low battery warning system for the unmanned aircraft and control station (CS);
 - be equipped with a data link protected against unauthorized access to command and control functions (C2)
 - Equip lights for attitude control and night flight
- They must have a class C4 marking label and therefore comply with the following technical requirements:
 - MTOM < 25 kg
 - be controllable and maneuverable safely by a remote pilot following the manufacturer's instructions
- not having automatic control modes, except for flight stabilization assistance without any direct effect on the trajectory and for assistance in the event of link loss, provided that a predetermined fixed position of the flight controls is available in the event of link loss
- be intended for the practice of model airplanes

As of January 1, 2024, in the open category, the aspects related to the **DIRECT REMOTE IDENTIFICATION SYSTEM ("DRI")** are summarized according to the following table:

Principales requisitos a partir 1/1/2024 Categoría abierta



UAS			Operación		Formación
Clase	DRI	MTOM	Subcat.	Restricciones operacionales	Requisitos a pilotos
Construcción privada	✗	< 250 g	A1	• No se recomienda volar por encima de personas. • No está permitido el vuelo sobre reuniones de personas.	Familiarización con el manual de usuario facilitado por el fabricante del UAS.
Legacy < 250g	✗				
C0	✗				
C1	✓	< 900 g		• No volar por encima de ninguna persona no participante. • No está permitido el vuelo sobre reuniones de personas.	• Familiarización con el manual de usuario facilitado por el fabricante del UAS. • Prueba de superación de formación en línea.
C2	✓	< 4 kg	A2	• No volar por encima de ninguna persona no participante. • 30 m de cualquier persona no participante. • 5 m de distancia si dispone de modo de baja velocidad.	• Familiarización con el manual de usuario. • Prueba de superación de formación en línea. • Exposición de formación en línea. • Certificado de Competencia de Piloto a Distancia.
C3	✓				
C4	✗				
Construcción privada	✗				
Legacy > 250g	✗	< 25 kg	A3	• No volar cerca de personas. • Distancia de 150 m respecto de: • Zonas residenciales • Zonas comerciales • Zonas industriales • Zonas recreativas	• Familiarización con el manual de usuario facilitado por el fabricante del UAS. • Prueba de superación de formación en línea.

2. 'SPECIFIC' CATEGORY UAS/DRONE OPERATIONS

The **'specific' category** includes those UAS operations with a **medium risk**, which cannot be carried out in the open category.

Before carrying out air operations in a specific category with UAS, it is necessary for an operator registered in Spain to request and **obtain an operational authorisation** issued by the State Aviation Safety Agency (hereinafter AESA) **or to submit a declaration** regarding an operation that fits a standard scenario.

An operational authorisation or declaration will not be required for UAS operators who hold a Light UAS Operator Certificate (LUC).

2.1. NATIONAL STANDARD SCENARIOS

AESA has defined two national standard scenarios, which may be covered by those unmanned aircraft operations to which Commission Implementing Regulation (EU) 2019/947 is applicable in Spanish territory and airspace.

These national standard scenarios are analogous to the European standard scenarios, providing an equivalent level of safety without the obligation to operate with an aircraft that has class marking through additional technical requirements and operational limitations.

The published national standard scenarios are as follows:

- **STS-ES-01:** VLOS Operations over a Controlled Land Zone in a Populated Environment
- **STS-ES-02:** BVLOS Operations with Airspace Observers over a Controlled Ground Area in a Sparsely Populated Environment

Implementing Regulation (EU) 2017/947 defines "controlled land area" as a land area in which the UAS is used and in which the UAS operator can ensure that only persons involved in the operation of the UAS are present.

2.2. EUROPEAN STANDARD SCENARIOS

The European standard scenarios are detailed in Implementing Regulation (EU) 2017/947 (link to regulations) and are as follows:

- **Standard Scenario 1 ('STS-01'):** VLOS operations over a controlled ground area in an urban environment with UAS that have identification of classes C5;
- **Standard Scenario 2 ('STS-02'):** BVLOS operations over a controlled ground area in a sparsely populated environment with UAS that have C6 class identification.

From 1 January 2024, UAS operators will be able to benefit from these European standard scenarios, with the prior submission of an operational statement for the STS-01 and/or STS-02 standard scenario.

3. 'CERTIFIED' CATEGORY UAS/DRONE OPERATIONS

The new EU regulations, both in Implementing Regulation (EU) 2019/947 and in Delegated Regulation (EU) 2019/945, already clearly determine and mark their limits.

UAS operations carried out in the 'certified' category will require UAS certification by EASA, operator certification and, where appropriate, obtaining a licence from the remote pilot.

UAS operations will be classified in the "certified" category only when:

- The UAS has a characteristic dimension of 3 m or more, its design is EASA certified to be used over concentrations of people and the operation involves flying over concentrations of people
- The UAS design is EASA certified for the transport of people and the operation involves the transport of people
- The UAS design is certified by EASA for the transport of dangerous goods as it requires great robustness to mitigate the risks for third parties in the event of an accident, and the operation involves the transport of dangerous goods that may pose a high risk to third parties in the event of an accident
- AESA, on the basis of the operational risk assessment for the 'specific' category, considers that the risk of the operation cannot be adequately mitigated without the certification of the UAS by EASA and the UAS operator and, where appropriate, without the obtaining of a licence by the remote pilot

MINIMUM AGES OF UAS REMOTE PILOT

Article 9 of Implementing Regulation (EU) 2019/947 on the minimum ages of remote pilots provides that the minimum age in the '**open**' and '**specific**' categories shall be **sixteen years**. However, exceptions will be applied to this point depending on the type of UAS with which you wish to operate, and may be reduced in certain situations in the "**open**" category

Likewise, point 3 of said Article 9 of Implementing Regulation (EU) 2019/947 establishes that Member States may reduce the minimum age of sixteen years for operations carried out in their territory.

In the case of Spain, Article 7 of Royal Decree 517/2024 establishes that the minimum age for the use of UAS in the "open" category is reduced in the following cases:

- Twelve years for the use of UAS in subcategory A1 when they operate:
 - a C0 class UAS that is not a toy; or
 - a "legacy" UAS with MTOM < 250 g
- Fourteen years in any of the following cases:
 - When operating in subcategory A1 with a C1 class UAS;
 - When in subcategory A2 or A3 they operate with a class C2 UAS;
 - When a C3 or C4 class UAS operates in subcategory A3; a privately built UAS with an MTOM of less than 25 kg; or a "legacy" UAS with an MTOM < 25 kg.

With regard to **non-EASA operations** carried out directly by a body vested with a public authority, Article 16 of Royal Decree 517/2024 establishes that the **minimum age** to act as a **UAS operator or remote pilot** in non-EASA activities or services **will be sixteen years old**.

UAS/DRONE REMOTE PILOT TRAINING

1. UAS/DRONE REMOTE PILOT TRAINING IN THE 'OPEN' CATEGORY

The 'open' category encompasses UAS operations that carry a low risk and do not require authorisation or declaration. This is divided into three subcategories; A1, A2 and A3, and the training required by the pilot will depend on the characteristics of the aircraft with which he intends to carry out the operations.

The following table summarizes the trading conditions in the "open" category:

UAS			Operación		Formación
Clase	DRI**	MTOM	Subcategoría	Restricciones operacionales	Requisitos a pilotos
Construcción privada	NO X	< 250 g	A1	- No se recomienda volar por encima de personas - No está permitido el vuelo sobre reuniones de personas	Familiarización con el manual de usuario facilitado por el fabricante del UAS
Legacy* < 250 g	NO X				
C0	NO X				
C1	SÍ ✓	< 900 g	A2	- No volar por encima de ninguna persona no participante - No está permitido el vuelo sobre reuniones de personas	- Familiarización con el manual de usuario facilitado por el fabricante del UAS, y - Prueba de superación de formación en línea
C2	SÍ ✓	< 4 kg			
C3	SÍ ✓	< 25 kg	A3	- No volar cerca de personas - Distancia de 150 m respecto de: - Zonas residenciales - Zonas comerciales - Zonas industriales - Zonas recreativas	- Familiarización con el manual de usuario facilitado por el fabricante del UAS, y - Prueba de superación de formación en línea
C4	NO X				
Construcción privada	NO X				
Legacy* >250 g	NO X				

**Los UAS definidos en el artículo 20 del RE (UE) 2019/947, es decir, que hayan sido introducidos en el mercado antes del 01 de enero de 2024 y no sean de construcción privada ni dispongan de marcado de clase, serán considerados como drones "legacy".*

***("DRI": Direct Remote Identification): Sistema de identificación a distancia directa.*

a. TRAINING IN "OPEN" SUBCATEGORY A1/A3

i. TRAINING REQUIREMENTS IN SUBCATEGORY A1

All UAS pilots who intend to perform UAS operations with the characteristics defined below **are only required to be familiar with the user manual provided by the UAS manufacturer:**

- Be privately built with an MTOM <250 g and maximum speed of less than 19m/s.
- Have an MTOM <250 g, without class marking and have been introduced on the market before January 1, 2024, with the requirements set out in the point "UAS/drones without class marking ("legacy") that are not privately built
- Have a class C0 marking label

It is recommended that, although it is not mandatory to obtain online training, the UAS pilot has the certificate of theoretical knowledge in subcategory A1/A3, which is a free theoretical exam given by AESA, to ensure that the pilot has the basic knowledge in aeronautical training that allows UAS operations to be carried out safely.

All UAS pilots who intend to carry out UAS operations in **subcategory A1** with the characteristics defined below, **must obtain the certificate of theoretical knowledge of remote pilot in subcategory A1/A3:**

- All those UAS that have **class C1 marking**

The training in subcategory A1 allows the UAS pilot to carry out operations avoiding the overflight of non-participating people and not allowing overflight over concentrations of people.

ii. TRAINING REQUIREMENTS IN SUBCATEGORY A3

All UAS pilots who intend to carry out UAS operations in **subcategory A3** with the characteristics defined below, **must obtain the certificate of theoretical knowledge of remote pilot in subcategory A1/A3;**

- Be privately built with an MTOM of up to 25 kg.
- Have an MTOM ≥ 250 g, **without class marking** and have been placed on the market before January 1, 2024, with the requirements set out in the point "UAS/drones without class marking ("legacy") that are not privately built
- Carry a class C2, C3 or C4 **marking label**

Training in *subcategory A3* allows the UAS pilot to carry out operations at a distance of at least 150 meters from residential, commercial, industrial or recreational areas, as well as not allowing overflights over people or concentrations of people.

Obtaining the theoretical certificate of remote pilot in Subcategory A1/A3 can only be done by completing an online training, **followed by an online exam given by AESA**. The registration, training and examination procedure is completely free.

The syllabus to be examined is made up of 9 different subjects, resulting in 40 questions with a duration of 40 minutes. To obtain the "Online Training Pass Test" certificate, you must pass the exam with at least **75%** of the correct answers and will appear at the end of any attempt as a Pass. Once you pass the exam, **no action is required**.

When the certificate has been issued, the user will receive a notification in the email in which they have registered. The **certificate is valid for 5 years** and the renewal process must be initiated with AESA prior to the expiration date.

b. TRAINING IN SUBCATEGORY "OPEN" A2

The training in the "open" A2 subcategory is intended for all those UAS pilots who wish to carry out their operations with UAS **only with Class C2 Marking, not being able to operate with a UAS with different characteristics**.

To obtain the remote pilot certificate in subcategory A2, the pilot must previously pass the theoretical remote pilot exam in subcategory A1/A3, and **declare to AESA, at the time of registration for the exam, that a self-training of practical skills has been completed**.

As in the A1/A3 "open" subcategory procedure, the remote pilot will have 2 attempts to pass it, and must get at least 75% of the correct answers. Once you pass the exam, no action is required. When the certificate has been issued, the user will receive a notification in the email in which they have registered. The **certificate is valid for 5 years** and the renewal process must be initiated with AESA prior to the expiration date.

2. TRAINING OF UAS/DRONES REMOTE PILOTS IN 'SPECIFIC' CATEGORY IN NATIONAL STANDARD SCENARIOS (STS-ES)

The 'specific' category encompasses UAS operations that carry a medium risk, which cannot be included in the "open" category.

Commission Implementing Regulation (EU) 2019/947 on the rules and procedures applicable to the use of unmanned aircraft provides in Article 23(4) for Member States to develop **national standard scenarios equivalent** to those set out in the regulation itself, valid during the transitional period, which ends on **December 31, 2025**, being able to submit the corresponding operational statements of the STS-ES **until August 30, 2024**

In Spain, two national standard scenarios (STS-ES-01 and STS-ES-02) equivalent to the "standard" scenarios established in the Regulation **have been developed in Royal Decree 517/2024**.

The national standard scenarios (STS-ES) **are only valid for carrying out operations within the territory and airspace of Spanish sovereignty** to the use of unmanned aircraft to which Commission Implementing Regulation (EU) 2019/947 is applicable, therefore, **they will not be valid in any way** both in the rest of EASA Member States and in third countries.

Article 20 of Royal Decree 517/2024 establishes that in order to carry out UAS operations in national standard scenarios ("STS-ES"), remote pilots must:

- a) a) To be in possession of a certificate of theoretical knowledge as a remote pilot, in accordance with the annex to this Royal Decree, for the performance of operations in standard scenarios, issued by the State Aviation Safety Agency; y
- b) b) Be in possession of an accreditation of complete training of practical skills for the corresponding standard scenario in each case, in accordance with the annex to this Royal Decree, issued by an entity authorised in accordance with Article 21.

ANNEX

Remote Pilot Theoretical Knowledge and Practical Skills Test for National Standard Scenarios ("STS-ES")

1) Theoretical knowledge exam

- a) The examination referred to in Article 20(1) shall consist of at least forty multiple-choice questions aimed at assessing the remote pilot's knowledge of technical and operational mitigations, appropriately distributed among the following subjects:
 - i. aviation regulation
 - ii. The limitations of human performance
 - iii. Operational procedures
 - iv. technical and operational mitigation of land-based risk
 - v. general knowledge of the UA
 - vi. Weather
 - vii. the flight performance of UAS, and
 - viii. technical and operational mitigation of airborne risks

- b) To pass the theoretical knowledge exam, the distance pilot in training must obtain at least 75% of the total score
- c) In addition, by means of AMCs adopted by the competent body for the subject matter of the State Aviation Safety Agency, other ways of accrediting theoretical knowledge may be recognised

2) Training and assessment of practical skills

Training and assessment of practical skills for conducting operations in any national standard scenario shall include, at a minimum:

- a) Training and theoretical-practical evaluation specific to each national standard scenario in which the distance pilot's knowledge of the following subjects is evaluated:
 - i. Operational limitations and requirements of the standard scenario
 - ii. Requirements and characteristics of standard scenario unmanned aircraft
 - iii. operational procedures of the standard scenario; y
 - iv. Required coordinations of the standard scenario (if applicable)
- b) Training and practical assessment specific to each national standard scenario in the subjects and areas indicated in **Table 1**
- c) In addition, in those national standard scenarios whose concept of operation includes operations beyond the visual range of the pilot ('BVLOS'), the in-flight procedures defined in Table 1(b)(ii) shall be carried out in BVLOS mode
- d) In addition, through AMCs adopted by the competent body for the subject matter of the State Aviation Safety Agency, other ways of accrediting the training and evaluation of practical skills may be recognized

All of the above taking into account the **content on Subjects and areas that must include training and the assessment of practical skills are included in Table 1 of the ANNEX** to Royal Decree 517/2024

3. UAS/DRONE PILOT TRAINING IN EUROPEAN STANDARD SCENARIOS (STS)

The European Standard Scenarios (STS) are **valid for carrying out operations within the territory and airspace of the European Union** for the use of unmanned aircraft to which Commission Implementing Regulation (EU) 2019/947 is applicable, therefore, they will not be valid in third countries.

a. THEORETICAL REMOTE PILOT TRAINING AT STS

Theoretical **training** for standard scenarios (STS) can be provided by a recognised training entity, a UAS operator, or on their own, always following the STS (Syllabus) theoretical knowledge syllabus, indicated in Implementing Regulation (EU) 2019/947. It will be the responsibility of AESA to carry out the theoretical knowledge exam of the standard scenarios and to issue, if applicable, the certificate of theoretical knowledge.

The format of the theoretical knowledge exam in the "specific" category under a standard scenario (STS) will depend on the previous theoretical training in the "open" category that the pilot has, with two alternatives:

- If you have **an A1/A3 pass test in the 'open' category**: A theoretical exam of 40 questions, lasting 40 minutes, will be carried out, based on 8 subjects
- If you **have an A2 certificate in the 'open' category**: A theoretical exam of 30 questions, lasting 30 minutes, will be carried out, based on 5 subjects, described in the Syllabus

b. PRACTICAL REMOTE PILOT TRAINING AT STS

After passing the theoretical exam before AESA for operation under a standard scenario, it will be necessary **to obtain specific practical training** for each scenario (STS-01 and STS-02), which must be given by recognized entities or by UAS Operators declared to AESA to provide practical training in **European standard scenarios (STS)**.

This training should consist of **a continuous assessment** of UAS remote pilot practical skills, as well as a subsequent delivery of the UAS remote pilot practical skills accreditation in the standard scenario (STS) in which the training was conducted.

UAS pilots who wish to receive the Practical Remote Pilot Training for Standard Scenarios (STS) will need to consider the following requirements for each type of scenario;

- Practical training in standard scenario **STS-01**: VLOS operations over a controlled ground area in a populated environment with UAS that have class **C5 marking**
- Practical training in standard scenario **STS-02**: BVLOS operations over a controlled ground area in a sparsely populated environment with UAS that have class **C6 marking**

c. CONVERSION OF STS-ES CERTIFICATES TO STS

Pilots who hold the theoretical certificate and/or accreditation of practical UAS remote pilot skills in national standard scenarios (STS-ES) will be able to convert their certificates to the European standard scenarios (STS) of the new UAS remote pilot training scheme in accordance with the provisions of Implementing Regulation (EU) 2019/947.

The request for remote pilot conversion may be made by all remote pilots who:

- Have passed the theoretical exam in the standard scenarios and/or
- The training and practical evaluation of remote pilots in the national standard scenarios (STS-ES), and who have in their possession:
 - The Remote Pilot Theoretical Knowledge (STS) Certificate
 - Remote Pilot Training and Practical Assessment Accreditations in National Standard Scenarios (STS-ES)

2.51. PRECAUTIONS AND SAFETY STANDARDS FOR HANDLING GAS

PRECAUTIONS AND SAFETY STANDARDS FOR HANDLING GAS (DURATION 4 HOURS) THEORETICAL RECYCLING: 5 YEARS
Contents: 1. Concept of gases; density; flammability; lower/upper limit of flammability or explosiveness 2. Gas classification 3. Gases harmful to health: CO, H ₂ S, O ₂ , acetylene, argon 4. Gas toxicology and toxicokinetics: effect of gases on the body 5. Hazard identification, pictograms 6. First aid measures, firefighting measures, spill or leak control measures, handling and storage 7. Personal protection measures 8. Flammable Gas Operations 9. Gas monitoring techniques and equipment

2.52. SAFE USE OF DIISOCYANATES LEVEL 1

SAFE USE OF DIISOCYANATES LEVEL 1 (DURATION 5 HOURS) THEORETICAL RECYCLING: 5 YEARS
AIMED AT: professional personnel at low risk of dermal and inhalation exposure to diisocyanates
1. Chemical Aspects of Diisocyanates 2. toxicity hazards (including acute toxicity) 3. Diisocyanate Exposure 4. occupational exposure limit values 5. How awareness is developed 6. Odour as an indicator of danger 7. Importance of volatility for risk 8. viscosity, temperature and molecular weight of diisocyanates 9. Personal hygiene 10. Necessary PPE, including practical instructions for proper use and limitations 11. Risks of exposure from skin contact and inhalation 12. risks related to the application processes used 13. skin and inhalation protection plan. 14. Ventilation 15. cleaning, leaks, maintenance 16. Disposal of empty containers 17. Protection of bystanders 18. Detection of critical handling steps 19. specific systems of national legislation (if applicable) 20. Behavior-Based Security 21. certificate or documentary proof that the training has been successfully completed

2.53. 4X4 OFF-ROAD VEHICLE DRIVING

SAFE OFF-ROAD VEHICLE DRIVING TRAINING (DURATION 8 HOURS) THEORETICAL - PRACTICAL RECYCLING: 5 YEARS	
AIMED AT: personnel who use these vehicles in daily operations and do so in off-road or off-road environments	
1. Driving a 4x4 vehicle 2. Emergency maneuvers 3. Climbing ramps and descending slopes 4. Passage of ditches, dubbies and stones 5. Rescue accessories and their use 6. Lever selection: 2H, 4H and 4L 7. Mud and wading depth 8. Maximum lateral inclinations, control measures	

2.54. HANDLING OF ALIMAK ELEVATORS

TRAINING IN THE HANDLING OF ALIMAK ELEVATORS (DURATION 1 HOUR) THEORETICAL - PRACTICAL RECYCLING: INDEFINITE	
AIMED AT: personnel who use this type of elevator	
1. Limitation of use of elevators. 2. Normal Elevator Use 3. Safety features in the cab: emergency lighting, two-way communication 4. Rescue procedure 5. Maximum equipment load 6. Signage, leveling, safety in access and disembarkation from the cabin.	
<i>Taught by the team maintainer</i>	