Industry subsector: MANAGEMENT OF INSTALLATION AND MAINTENANCE IN WIND ENERGY

KPA 3	PREVENT PROFESSIONAL HAZARDS AND PERFORM IN EMERGENCY CASES IN WIND PARKS		
KPA Description	Define and evaluate the professional hazards coming from the wind turbine assembly, operation and maintenance, establish the security measures and evaluate the different emergency performances in each case.	Nº of ECVET credits:	EQF level: 4

Performance Criteria Description:	Criticality / Priority:	Means of verification:

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- Define and evaluate the professional hazards
- Describe the different personal safety and protection equipments
- Analyse the operations to lift and put down materials and people
- Analyse the safety conditions and the procedures
- Describe the emergency devices

U1. Title:	Description
Define and evaluate the professional hazards	Develop classification criteria and systems to define and evaluate the professional hazards coming from the wind turbine assembly, operation and maintenance

U2. Title:	Description
Describe the different personal safety and protection equipments	Describe and feature the different personal safety and protection equipments used in the wind park assembly and maintenance works

U3. Title: Analyse the operations to lift and put down materials and people	**Description** Analyse the operations to lift and put down materials and people in a wind turbine, describing the procedures and equipments required to do them safely
U4. Title: Analyse the safety conditions and the procedures	**Description** Analyse the conditions and the procedures ensuring safety in the wind park assembly and maintenance works
U5. Title: Describe the emergency devices	**Description** Reason and evaluate the emergency devices against accidents, describing each one and establishing the performances to carry out in each case

Title of the LO	PREVENT PROFESSIONAL HAZARDS AND PERFORM IN EMERGENCY CASES IN WIND PARKS			
Title UNIT 1:	Define and evaluate the professional hazards			
LO UNIT Reference info:	Reference document / link			
Nº of ECVET credits:			EQF level:	4
LO UNIT Performance Criteria / Success Indicators	#	Criteria / Indicator Description	Critically	Means of verification
Knowledge	• Technological processes and identification of hazards. • Safety manual • Mechanical hazards • Electric hazards • Hazards linked to dangerous substances and materials. • Prevention and control of professional hazards in the manoeuvres carried out with the wind turbine working. • Prevention and control of professional hazards in the manoeuvres carried out with the wind turbine stopped.			
Skills	– Interpret and use the company safety manual – Identify the risks coming from fallings, getting knocked, trapped and run over by the machines. – Identify the risks coming from accidents in the access to the wind parks – Identify the electric risks inherent to the electric installations. – Evaluate and classify the possible consequences for people of each of the identified risks. – Manage and adopt control and risk prevention measures. – Transmit occupational safety information and recommendations to the people who, under their responsibility, work in the operations of wind turbine assembly, operation or maintenance.			

Competence	- Commitment with the encouragement of safe behaviours - Controlled and safe attitude against possible contingencies. - Initiative in emergency situations. - Supportive participation in team tasks, making the effort required by the group.
Means of verification	• Analyse the different professional activities carried out in the wind turbine assembly to be installed in a wind park, determining the hazardous situations and classifying them by their kind and importance. • Analyse the specific maintenance activities in a wind park, determining the hazardous situations and classifying them by their kind and importance. • Define the risk prevention and control measures in each case. • Develop measures for the information and dissemination of prevention in the wind park assembly, operation and maintenance.

Title of the LO	PREVENT PROFESSIONAL HAZARDS AND PERFORM IN EMERGENCY CASES IN WIND PARKS			
Title UNIT 2:	Describe the different personal safety and protection equipments			
LO UNIT Reference info:	Reference document / link			
Nº of ECVET credits:			EQF level:	4
LO UNIT Performance Criteria / Success Indicators	#	Criteria / Indicator Description	Critically	Means of verification
Knowledge	• Individual protective equipments. • Control equipments against falling. • Safety auxiliary equipments • Signal systems • Equipment maintenance.			
Skills	– Identify and manage individual protective equipments and occupational clothes – Identify and manage specific protective equipments against falling (harness, belt against falling, and safety rope). – Survey and ensure the operational capacity of the telecommunication means. – Inspect the individual protective equipments, reporting any damaged elements or those that are not suitable for their acquisition or replacement.			
Competence	- Commitment with the encouragement of safe behaviours - Controlled and safe attitude against possible contingencies. - Initiative in emergency situations. - Supportive participation in team tasks, making the effort required by the group.			

Means of verification	• Classify and establish the characteristics of the individual protection equipments and specific work clothes used in the works of wind turbines assembly and maintenance. • Define the use and features of the safety equipments for the control of fallings. • Describe the operation and features of the wireless telecommunication equipments and reason their importance as a safety element. • Describe the critical inspection and maintenance points of the personal safety equipments and against falling.

Title of the LO	PREVENT PROFESSIONAL HAZARDS AND PERFORM IN EMERGENCY CASES IN WIND PARKS			
Title UNIT 3:	Analyse the operations to lift and put down materials and people			
LO UNIT Reference info:	Reference document / link			
Nº of ECVET credits:			**EQF level:**	4
LO UNIT Performance Criteria / Success Indicators	#	Criteria / Indicator Description	Critically	Means of verification
Knowledge	• Load lifting • Signal systems • User's training on: - Tow-rope guided lifts - Fixed crane guided lifts - Rack guided lifts (Operation. Standards of use) - Emergency. Evacuation system			
Skills	– Control the procedures and problems to go up the wind turbine. – Control the procedures and problems to go down the wind turbine. – Use the auxiliary equipments in the movements up and down in a suitable and safe manner.			
Competence	- Commitment with the encouragement of safe behaviours - Controlled and safe attitude against possible contingencies. - Initiative in emergency situations. - Supportive participation in team tasks, making the effort required by the group.			

Means of verification	• Establish the safety requirements for the workers to go up and down a wind turbine. • Describe the necessary procedures and equipments to lift and put down materials and tools in the wind turbine. • List the signaling kinds and conditions, limit the protection areas in the task of load lifting carried out during the assembly and maintenance.

Title of the LO	PREVENT PROFESSIONAL HAZARDS AND PERFORM IN EMERGENCY CASES IN WIND PARKS			
Title UNIT 4:	Analyse the safety conditions and the procedures			
LO UNIT Reference info:	Reference document / link			
Nº of ECVET credits:			EQF level:	4
LO UNIT Performance Criteria / Success Indicators	#	Criteria / Indicator Description	Critically	Means of verification
Knowledge	– Technological processes and identification of hazards – Regulations on movement to the park and inside it – Regulations on access to the wind turbine – Regulations on transport, unloading and lifting the material – Equipment maintenance			
Skills	– Use suitably and safely the block and tackles and cranes – Determine and evaluate the loads, distribution angles and centre of gravity and the static and dynamic behaviours – Use the visual, verbal and gesture signal plan according to the regulations in force and the procedures determined in the safety plan – Follow the procedures for the safe stop of the turbine. – Perform the works to ensure safety against the wind turbine electric hazards, according to the corresponding method and regulations. – Perform the works to ensure safety against the wind turbine mechanic hazards, intervening in the hydraulic system according to the corresponding method and regulations. – Carry out the performances with dangerous substances and materials according to the regularory requirements and the company safety plan.			

Competence	- Commitment with the encouragement of safe behaviours - Controlled and safe attitude against possible contingencies. - Initiative in emergency situations. - Supportive participation in team tasks, making the effort required by the group.
Means of verification	• Describe the procedure to stop the turbine. • Describe the operations required to control and reduce the electric hazards during maintenance. • Describe the necessary operations to control and reduce the mechanic hazards from the hydraulic and pneumatic systems. • List the dangerous substances and materials existing in the wind power premises, determining the necessary precautions in each case.

Title of the LO	PREVENT PROFESSIONAL HAZARDS AND PERFORM IN EMERGENCY CASES IN WIND PARKS			
Title UNIT 5:	Describe the emergency devices			
LO UNIT Reference info:	Reference document / link			
Nº of ECVET credits:			EQF level:	4
LO UNIT Performance Criteria / Success Indicators	#	Criteria / Indicator Description	Critically	Means of verification
Knowledge	– Emergency plan – Protecting the injured – Evaluation of the accident – Asking for help – First aids.			
Skills	– Protect the injured and isolate from the cause of the accident. – Evaluate the emergency following the procedures defined in the safety standards. – Ask for help in the emergency according to what stated in the safety plan and the standards in force – Perform the first aids according to the health recommendations prescribed for each case. – Perform tests and practices with firemen periodically, according to established planning.			
Competence	- Commitment with the encouragement of safe behaviours - Controlled and safe attitude against possible contingencies. - Initiative in emergency situations. - Supportive participation in team tasks, making the effort required by the group.			

Means of verification	• Describe an emergency plan, analysing the parts composing it. • Describe the requirements coming from an emergency plan regarding the required material resources. • Define the performances the people should follow in case of accident or contingence, describing each protection measure, evaluation, help and first aids.