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0 CHANGE CONTROL

Edition	Date	Modification description
00	25.04.2014	Initial Edition

1 OBJECTIVE AND SCOPE

The aim of this procedure is to describe the process followed by EDPR Romania in order to ensure a proper waste management during the operation and maintenance works of the facilities included in the EMS scope.

2 REFERENCES

- Standard ISO 14001:2004
- MAN-EU/EMS-MAN-00001 EMS Manual
- EXPR-EU/EMS-GEN 00007 Operational Control, monitoring and measurement
- EXPR-EU/EMS-GEN 00008 Emergency preparedness and response
- EXPR-GLB_TSO&M-SPV-00024 O&M Procedures for PV Waste management and module recycling
- EXPR-EU/EMS-SPF-00008 HW Management Procedure - Operation of Wind Farms

3 DEFINITIONS

- **Clean Point:** special area inside EDPR substation designed for temporary storage of waste generated during operation.
- **Collection**: any operation consisting in collecting, sorting, grouping or preparing waste for transport.
- **Disposal:** any procedure directed at either waste dumping or totally or partially destroying it without causing a health risk and without using methods that could be damaging to the environment.

- **Hazardous waste (HW):** waste figuring in the hazardous waste list within the specific law publishing waste valorization and disposal operations and the European waste list and its successive updates, as well as the containers and bottles that have contained it.
- **Management:** waste collection, storage, transport, valorization and disposal including monitoring these activities and monitoring the storage or dumping places after its closing.
- **Recycling:** operation of reprocessing in a production process of waste for the original purpose or for other purposes.
- **Storage:** temporary storage of waste prior to valorization or disposal for under 2 years or 6 months if it is HW, unless shorter times are established in regulations.
- **Urban or assimilable waste:** generated in households, shops, offices and services as well as all waste that is not classified as hazardous waste and which given its nature or composition can be assimilated to those produced in the previous spaces or activities. Waste and rubber small constructing works and household repairs.
- **Valorization:** any procedure that allows for exploiting resources contained in the waste without causing any risk to human health and without using any methods that could be damaging to the environment.
- **Waste:** any substance or object belonging to any of the categories included in the specific law on waste, which its supplier gets rid of or has the intention or obligation to get rid of.

4 ABBREVIATIONS

- **EMS:** Environmental Management System
- **EPA:** Environmental Protection Agency
- **HW:** Hazardous Waste.
- **IES:** Inspectorate for emergency situations
- **LER:** European Waste List
- **NHW:** Non-Hazardous Waste
- **O&M:** Operation and Maintenance
- **WF:** Wind Farm
- **PV:** Photovoltaic Plant

- **SIS:** Sustainability Information System

5 PROCEDURE

5.1 Areas involved

The areas and people involved in the waste management process are:

- **Environment department:** Environment Specialists responsible for the environmental management and EMS of the facilities and for the monitoring of the environmental performance of the Business Unit.

- **O&M:** Wind Farm and PV plant Managers responsible for the different facilities in operation.

- **Contractors**: companies/professionals hired to provide a particular service in the wind farms and PV plants.

5.2 Identification of generated waste during operation

In general, facilities in operation generate the following waste:

a) Hazardous Waste at a higher rate

- Used oils
- Contaminated absorbents
- Contaminated packaging (metal and plastic)
- Used oil filters

To a lesser extent:

- Lead batteries
- Ni-Cd batteries
- Waste paint and varnish

- Discarded equipment containing hazardous components
- Fluorescent tubes and other waste containing mercury

b) Non-hazardous waste

- Mixed municipal waste
- Biodegradable waste
- Paper and cardboard
- Plastic
- Waste printing tonners

5.3 Clean Points in EDPR substations and PV plants

Each substation and each PV plant is endowed with a Clean Point specially designed for temporary storage of waste generated during operation.

EDPR O&M Personnel will be in charge of hiring a specialized company for the management of collected waste in the Clean Point. The company should be authorized according with Romanian legislation in force. An environmental authorization should be required when hiring, in order to ensure the compliance with the applicable laws.

In case the company is not directly in charge for waste recovering, the O&M Managers should ask for copies of the contracts it has for this operation, the waste treatment and quantities.

During operation the hired company will be in charge of handling to O&M Managers the waste management documents according with legislation in force.

Clean Point

EDPR has specific areas, designed and bounded as HW storage to avoid potential transfer of contamination to other environments. This Clean Point must be protected from the sun, sheltered from meteorological conditions and must have spillage retention system.

The Cleaning Point is endowed with absorbent materials in order to correct accidental spillages, as well as an extinguisher (mandatory for closed areas) to control possible risks derived from stored flammable materials. A Clean Point standard can be consulted at Internal Documentation: "GPDC-EUEYC-SBST-00006"

Containers in the Clean Point will have a clear, legible and indelible label stuck on it with a minimum size of 10*10 cm, at least in Romanian. It will contain: Name of waste, waste code, work centre name, address and telephone number, waste owner, packing date, nature of the hazard with a pictogram.

Fig.1. Example of WF Clean Point

Fig 2. Example of PV plant Clean Point

Regarding the Clean Points for PV plants, these were installed during operational period.

They have a steel or gravel floor, a metal roof, wire fence and are endowed with retention tanks for HW containers in order to prevent accidental leakages.

Each Clean Point is endowed with special collection bins for selective collection of generated hazardous and non-hazardous waste.

The generated waste quantities (HW and NHW) are collected by hired contractors and temporary stored in the Clean Points from each facility.

More details can be consulted in the Specifique procedure about waste management in the PVS: EXPR-GLB_TSO&M-SPV-00024 O&M Procedures for PV Waste management and module recycling

Leakages or spills:

According to General Procedure EMS-EU/GP-00008 "Emergency preparedness and response_v00", in case of spillage some steps should be followed: avoid the spreading by using absorbent materials, identify the source of the problem and take the necessary measures to stop or control it. Once stopped or controlled, the contaminated absorbent material will be collected and deposited in the proper container in the Clean Point.

When spilled waste comes in contact with the ground, the contaminated fraction should be removed as quickly as possible and managed as hazardous waste. Absorbent material will be also used.

The leaks/spillages when handling hazardous waste or in storage work, should be corrected immediately and should be notified to the Environmental Specialist appointed by EDPR and to **EDPR O&M WF/PV Manager**.

The specific procedure for PV Waste management and module recycling EXPR-GLB_TSO&M-SPV-00024 and the HW Management Procedure – Operation of Wind Farms EXPR-EU/EMS-SPF-00008 will be respected.

More details can be also consulted in the General Procedure EMS-EU/GP-00008 "Emergency preparedness and response_v00".

5.4 Management of non-hazardous waste

The waste management process includes the tasks of waste separation, temporary storage, transport and treatment.

Non-hazardous waste collection

All non-hazardous waste generated during operation period will be selectively collected and temporary stored in each Clean Point in the special bins properly labelled, according with applicable legislation. Please see Annex 1 with common NHW that may be generated.

For recyclable waste a selective collection system will be implemented on site for following fractions: paper and cardboard, glass, plastic and metals.

Whenever possible, recovery and recycling is always given priority over elimination.

EDPR will deliver the NHW generated to authorized companies for collection and disposal by the corresponding Governmental Bodies.

Transport of non-hazardous waste

The transport of non-hazardous waste should be done from the temporary storage place to the final destination (recovery or storage) in vehicles duly authorized by the competent authority.
The authorized company hired by EDPR will collect the waste each time needed and will transport them for recovery or final storage.

According with **G.D. 1061/2008** regarding the transport of hazardous and non-hazardous waste on Romania`s territory, the authorized company for waste collection will be in charge of preparing the special forms for NHW transport: ***Non-hazardous waste handling form.***
This form will be completed in 3 copies: 1 for the waste sender (EDPR), 1 for the transporter and 1 for the waste receiver. When asked, they will present the documents to competent authorities.

Each non-hazardous waste transport shall be accompanied by the specific non-hazardous waste handling form.

EDPR NHW collection contracts

For NHW collection EDPR has closed for each facility contracts with authorized companies for mixed municipal waste, biodegradable and recyclable waste.

5.5 Management of hazardous waste

Hazardous waste collection

All hazardous waste generated during operation period will be selectively collected and temporary stored in the Clean Point from each facility.
Each Clean Point is endowed with covered metallic containers properly labelled, according with applicable legislation. Also retention tanks are provided in order to avoid accidents and spillages.

The hazardous waste should be correctly stored, preventing it from mixing together and making sure that hazardous characteristics are not increased when they are placed together.

Hazardous waste may not be stored more than 6 months period.

Leaks/spillages when handling hazardous waste or in storage work, should be corrected immediately and should be notified to the EMS Manager appointed by EDPR.

When spilled waste comes in contact with the ground, the contaminated fraction should be removed as quickly as possible and managed as hazardous waste.

EDPR Romania has also prepared a **HW Management Procedure**: EXPR-EU/EMS-SPF-00008 applicable for Vestas activities in all operational wind farms. The aim of this procedure is to describe main responsibilities of both parties, EDPR and Vestas, in order to have a proper HW management during operation and maintenance works and a better control of HW waste generated.
In this regard, specific steps will be followed by Vestas personnel and O&M WF Managers.
An annex containing the LER codes of the HW waste generated will be available in each Clean Point and used every time HW is disposed. ***Please see Annex 1.***

Also a Hand-Over document: TMP-EU/EMS-SPF-00007 will be completed with information about HW type, LER code, quantity and then it will be signed by Vestas personnel and O&M WF Manager.

More information can be consulted in the Hazardous Waste Management Procedure prepared for Vestas.

Transport of hazardous waste

The transport of hazardous waste should be done from the storage place to the final destination (recovery or storage) in vehicles duly authorized by the competent authority and with appropriate authorisation as a hazardous waste haulage contractor.
The authorized company hired by EDPR will collect the waste each time needed and will transport them for recovery or final storage.

Whenever possible, recovery and recycling is always given priority over elimination.

According to **GD 1061/2008** regarding the transport of hazardous and non-hazardous waste on Romania`s territory, some steps should be followed. The authorized company for HW collection will be in charge of preparing the special forms for HW transport and transport approval, when necessary.

- For quantities < 1 t/year from the same waste category, a special form will be completed: ***Hazardous waste expedition/transport form.*** The form will be completed in 3 copies: 1 for the waste sender (EDPR), 1 for the transporter and 1 for the waste receiver. When asked, they will present the documents to competent authorities.

- For quantities > 1 t/year an approval form: ***Hazardous waste transport approval form*** will be completed for HW transport. This form should be kept in 6 copies, one for each part, as follows:

- The waste sender (EDPR)
- The waste receiver
- EPA responsible for the waste treatment/recovery/disposal plant location
- IES (Inspectorate for emergency situations)
- EPA responsible for the waste sender location
- The waste transporter.

Each HW transport > 1t/year has to be accompanied by the approval form and also by the delivery/transport form.

Regarding used oils, these are managed according with **GD 235/2007** which objective is to control used oils management activities in order to avoid negative impact on human health and on environment.

In this regard used oils generators have the following obligations:

- ensure the separately collection
- storage in special recipients with retention tanks in order to avoid accidental leakages
- keep an evidence of fresh oil consumed
- deliver the used oils to an authorized company based on a special statement for used oils delivery.

The ***Used oils delivery statement*** will be completed by the generator and then given, in original, to the authorized company hired for HW collection. A copy of this document will be kept for 3 years by the used oils generator.

EDPR HW collection contracts

For HW collection EDPR has closed for each operational facility contracts with authorized companies.

6 LEGISLATIVE & REGULATORY

Applicable environmental legislation on waste matters can be consulted in the "List of legal requirements in Romania" which is updated regularly.

7 REPORTING

7.1 EPA`s Reporting

The waste reporting to competent EPA is done according with Romania legislation and with the provisions set in the Environmental Authorizations obtained for each facility.

In this regard following laws shall be respected:

- **GD 856/2002**: An annual reporting to EPA has to be done. The waste management records on type of waste will be submitted every year to competent EPA.
- **GD 235/2007:** Each semester the used oils records will be reported to competent EPA

Special forms will be used, according with the templates from the applicable legislation.

Also **GD 1061/2008** regarding hazardous and non-hazardous waste transport in Romania will be respected.
All evidences will be also kept in one copy in case of control from Environmental Guard or other competent authorities.

7.2 SIS Reporting

The waste indicators will be quarterly reported in SIS (by LER code and by treatment) by each O&M Manager as a contributor.
The EMS Manager (validator) will review the data introduced by the contributors and then will approve them.

8 RESPONSIBILITIES

Environmental Specialist / EMS Manager

- Coordinate the waste management in all facilities and SIS reporting.
- Verify the waste company before hiring in order for it to be authorized according with Romanian Law.

- Support the O&M Department in all activities related to the waste management.
- Report to competent EPA the waste management records.
- Keep the evidences of all reported waste and necessary documents in case of control.

O&M Department

- Hire authorized handler for waste collection.
- Ensure the segregated collection and temporary storage of hazardous and non-hazardous waste.
- Make sure that all necessary documents and forms regarding waste delivery are prepared and properly managed.
- Keep all evidences and forms in the substations in order to present them to competent authorities in case of control.
- Maintain a good communication with all contractors responsible for waste management
- Report quarterly in SIS the amount of waste generated in each facility

Main contractors

- Segregate the waste on types and separately dispose it in the Clean Points
- Provide information regarding HW types, codes disposed and quantities
- Complete and sign the internal Hand Over Document: TMP-EU/EMS-SPF-00007 for HW in order to keep an evidence of HW temporary stored and have a control key for waste segregation
- Discharge the waste in the special containers from each Clean Point in safety conditions and with appropriate devices in order to prevent leakages
- The Contractors shall bear all costs and expenses and shall be solely liable for any response, removal, investigation, cleanup or other remedial action required by any Applicable Law related to any hazardous substances furnished under, or brought, created, released, exacerbated, used, or handled on, near, or from the wind turbines or other equipments to the Clean Point.

Waste companies

- Provide the waste documents required by applicable legislation each time waste is collected: Non-hazardous waste handling form, Hazardous waste expedition/transport form, Hazardous waste transport approval form
- Ensure the waste segregation during collection, transport and storage activities.

9 ANNEXES

Annex 1: Common NHW LER Codes & Description

LER CODES	Legal description of LER codes- RO	Legal description of LER codes- ENG
20 03 01	Deseuri municipale amestecate	Mixed municipal waste
20 01 08	Deseuri biodegradabile	Biodegradable waste
20 01 01	Hartie si carton	Paper and cardboard
20 01 39	Materiale plastice	Plastic
20 01 40	Metale	Metals
15 01 01	Ambalaje de hartie si carton	Paper and cardboard packaging
15 01 02	Ambalaje de materiale plastice	Plastic packaging
15 01 04	Ambalaje metalice	Metals packaging
08 03 18	Deşeuri de tonere de imprimante	Waste toner printers

Annex 2: HW LER Codes & Description

LER CODES	Legal description of LER codes- RO	Legal description of LER codes- ENG
20 01 35*	Echipamente electrice si electronice casate, altele decat cele specificate la 20 01 21 si 20 01 23 cu continut de componenti periculosi	Discarded electrical and electronic equipment other than those mentioned at 20 01 21 and 20 01 23 containing hazardous components
15 01 10*	Ambalaje care contin reziduuri sau sunt contaminate cu substante periculoase	Packaging containing residues or contaminated by dangerous substances
15 01 11*	Ambalaje metalice care contin o matrita poroasa formata din materiale periculoase (de ex. Azbest), inclusiv containere goale pentru stocarea sub presiune	Metallic packaging containing a dangerous solid porous matrix (for ex. Asbestos), including empty pressure storage
15 02 02*	absorbanti, materiale filtrante (inclusiv filtre de ulei fara alta specificatie), materiale de lustruire, imbracaminte de protectie contaminata cu substante periculoase	Absorbents, filter materials (including oil filters with no other specified), materials polishing, protective clothing contaminated by dangerous substances
16 01 07*	Filtre de ulei	Oil filter
08 01 11*	Deseuri de vopsele si lacuri cu continut de solventi organici sau alte substante periculoase	Waste paint and varnish containing organic solvents or other dangerous substances
16 06 01*	Baterii cu plumb	Lead batteries
16 02 13*	Echipamente casate cu continut de componente periculoase, altele decat cele specificate de la 16 02 09 la 16 02 12	Discarded equipment containing hazardous components other than those specified at 16 02 09 and 16 02 12
13 02 05*	Uleiuri minerale neclorurate de motor, de transmisie si de ungere	Non-chlorinated mineral oil from engine, gearing and lubricating
13 03 07*	uleiuri minerale neclorinate izolante şi de transmitere a căldurii	Non-chlorinated mineral oil from heat transmission
13 01 10*	uleiuri minerale hidraulice neclorinate	Mineral oil – hydraulic system
13 02 06*	uleiuri sintetice de motor, de transmisie şi de ungere	Synthetic oil from engine, gearing and lubricating
13 03 08*	uleiuri sintetice izolante şi de transmitere a căldurii	Synthetic oil from heat transmission
13 01 11*	uleiuri hidraulice sintetice	Synthetic oil – hydraulic system

10 TEMPLATES

- TMP-EU/EMS-SPF-00007 Hand-Over document

All evidences regarding waste management are recorded in special forms according with applicable legislation in Romania.

TMP-EU/EMS-SPF-00007 "Hand-Over document"

Wind Farm: ..... Wind Farm

Date: .....

PV predare Deseuri Periculoase / Hand-Over Document HW

Nr. Crt.	Type of waste	Provenience	LER code	Estimated quantity	Observations
1					
2					
3					
.....					

Provider:

Vestas Personnel

Name: .....

Signature: .....

EDPR Wind Farm Manager

Name: .....

Acceptance signature: .....