

**WASTE PREVENTION
AND
REDUCTION PROGRAMME
ASTRA RAIL INDUSTRIES S.A.**

2022

GREENBRIER
Europe

**DRAWN UP BY
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**ASTRA RAIL INDUSTRIES S.A.
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1. INTRODUCTION AND CONTEXT

This WASTE PREVENTION AND WASTE REDUCTION PROGRAMME has been drawn up by Daniel Petrus, responsible for the environment, in accordance with the requirements of Emergency Ordinance no.92 of 19 August 2021 on the waste regime for ASTRA RAIL INDUSTRIES SA, based on the audit of waste generated in Calea Aurel Vlaicu, no. 41-43, Arad.

Following the results of the waste audit, the company has developed and implemented a programme to reduce the quantities of waste generated, mainly by ensuring the selective collection of recyclable waste, the regular handing over of recoverable waste to authorised companies and the thorough control of purchased assemblies and sub-assemblies, thus reducing in particular the quantity of waste that is handed over for final disposal in landfills.

Waste management refers to the temporary storage, reuse, collection, transport, treatment, recycling and disposal of waste, the main aim being to save raw materials by reusing recyclable waste, thus helping to reduce pressure on natural resources.

For the purposes of the Emergency Ordinance on the waste regime, the meaning of certain terms is set out below:

- waste audit - a systematic, documented, regular and objective assessment of the performance of the waste management system and processes in order to facilitate the control of waste management and recovery of the waste generated, and to assess compliance with environmental policy, including the achievement of objectives, the performance of the company in preventing and reducing the generation of waste from its own activities and the performance of the company in reducing the harmfulness of waste
- a systematic, documented, regular and objective assessment of the performance of the waste management system and processes in order to facilitate the control of waste management and recovery of the waste generated, as well as to assess compliance with environmental policy, including the achievement of targets, the performance of the company in preventing and reducing the generation of waste from its own activities and the performance of the company in reducing the harmfulness of waste;
- waste collection, including sorting and pre-storage of waste for transport to a treatment facility;
- separate collection - collection where a waste stream is kept separate according to the type and nature of the waste in order to facilitate its specific treatment;

- collector - any undertaking/economic operator carrying out an authorised collection activity and acting on its own behalf to collect waste from third parties for transport to a treatment facility;
- waste - any substance or object which the holder discards or intends or is required to discard;
- recycling - any recovery operation whereby waste is transformed into products, materials or substances to fulfil its original function or for other purposes. It includes reprocessing of organic materials, but does not include energy recovery and conversion for use as fuel or for backfilling operations;
- reuse - any operation whereby products or components that have not become waste are used again for the same purpose for which they were designed;
- traceability - the characteristic of a system that allows the history, use or location of a waste to be traced through recorded identifications;
- waste oils - all mineral oils or synthetic lubricants or industrial oils which have become unsuitable for the use for which they were originally intended, such as oils used in combustion engines and transmission systems, lubricating oils, turbine oils and oils for hydraulic systems;

Activities should always take into account a **hierarchy of waste management options**. The first option is **waste prevention, by choosing the best technologies at the design stage**.

If waste avoidance is not always possible, then the amount of waste generated must be minimised through reuse, recycling and energy recovery. The waste disposal stage should only be applied after all other means have been used to the maximum, in a responsible way so as not to produce negative environmental impacts.

Waste is divided into two main categories: **non-hazardous** and **hazardous** and are defined by category in GD 856/2002 on waste management records. Each type of waste is represented by a 6-digit code depending on the generating activity, to which an asterisk (*) is added if it belongs to the hazardous category (e.g. 20 01 35*).

All categories of waste are collected separately and handed over to authorized companies. At each delivery of waste, the confirmation receipt or the waste loading/unloading form will be requested and kept after delivery to the authorized collectors.

Waste producers / waste disposers are obliged to hand over the waste generated from their activity to economic operators authorized by the competent public authority (Environmental Protection Agencies) and to carry out waste collection, transport, recovery and/or disposal operations in accordance with the environmental legislation in force.

The costs of waste management operations are borne by the waste producer according to the "polluter pays" principle.

Economic operators authorized from the point of view of environmental protection to carry out collection and transport operations are obliged to selectively collect the waste and transport it only to authorized facilities to carry out the sorting/disposal operations.

Producers and/or holders of waste have the obligation to recover waste in accordance with the hierarchy of waste management options and without endangering human health and the environment.

Hazardous wastes (those represented by asterisks) must be stored separately according to their physico-chemical properties, compatibilities and the nature of the extinguishing substances that can be used for each category of waste in case of fire, so as to ensure a high degree of protection of the environment and the health of the population, including ensuring traceability from the place of generation to the final destination.

Traceability is recorded at the generator through the waste management record according to Annex 1 of HG856/2002. The waste management record is drawn up for each type of waste and is submitted annually to the environmental agency.

Abandonment, disposal outside the authorized spaces or setting fire to waste of any kind is prohibited and is punishable by a fine from 50.000 lei to 70.000 lei, for legal persons, according to the Emergency Ordinance no.92/2021,art.62,paragraph.1,lt.b.

2. CURRENT SITUATION

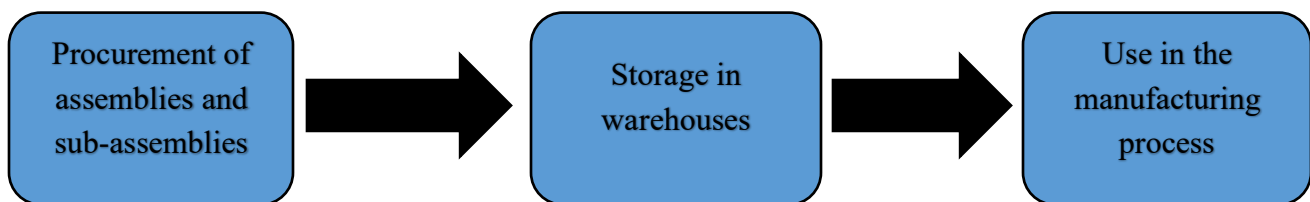
2.1. General information

COMPANY NAME	ASTRA RAIL INDUSTRIES SA
HEADQUARTERS	41-43 Aurel Vlaicu Street, ARAD
CUI/REG. OF COMMERCE	RO 29922041
ACTIVITY (CAEN)	Manufacture of rolling stock CAEN-3020
ASSESSED AREAS	OFFICES, FACILITY
PROGRAMME IMPLEMENTATION OFFICER	DANIEL PETRUSE phone no. 004 0734457025
DEVELOPER NAME	DANIEL PETRUSE

2.2. Data on the work carried out

Activities carried out by ASTRA RAIL INDUSTRIES SA at the headquarters are:

- Office activities
- Manufacture and repair of the means of rail transport and rolling stock



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3. PROGRAMME TO PREVENT AND REDUCE THE QUANTITIES OF WASTE

Waste code	Waste name	Estimated quantity	M U	Collection method, temporary storage	Physical condition	Exploitation/disposal	Reduction of generated waste	Proposed measures	Deadlines	P
12 01 01	Iron filings and shavings	1400	to	RM (metal container)	solid	exploitation	yes	Correct CNC programming and application	permanent	CNC Bogi
16 01 17	Iron waste	4000	to	RM (metal container)	solid	exploitation	yes	Correct laser and plasma programming and application	permanent	prog and t
16 01 18	Nonferrous waste	20	to	RM (metal container)	solid	exploitation	yes	Spare parts supply for maintenance	permanent	P M
15 01 04	Waste metal packaging	10	to	RM (in covered bulk)	solid	exploitation	no	-	-	
20 03 01	Mixed municipal waste	480	mc	RP (plastic container)	solid	disposal	yes	advanced selective collection	permanent	Hea Envi co re

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15 01 02	Plastic materials packaging waste	15	to	BIG-BAGS (provided by the collaborating company)	solid	exploitation	no	-	-	
03 01 05	Sawdust, shavings, wood shavings, other than 03 01 04*	700	to	RL (wooden containers)	solid	Energetic exploitation	yes	Advanced selection of energy recoverable waste	permanent	Staff depa
						disposal	yes			
15 01 01	Cardboard and paper packaging waste	80	to	RM (metal container)	solid	Recycling at authorised third parties	no	-	-	
12 01 17	Waste blasting material other than 12 01 16*	300	to	RM (metal container)	solid	exploitation	yes	Correct adjustment of blasting process parameters	permanent	sandbl equip Finis Proc
16 01 03	Scrap tyres	3	to	VA (in bulk, covered)	solid	Energetic exploitation	no	-	-	-
09 01 07	Rx film waste	3	to	A (cardboard boxes)	solid	Recovery with Ag recovery	yes	introduction of Rx equipment that does not require the use of film	permanent	Invest Head
19 12 04	Plastic and rubber waste	2	to	A (cardboard boxes)	solid	exploitation	yes	correct quantitative supply of auxiliary materials in the wagon's equipment	permanent	Purch Tech stand requi

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											shop Asse
20 01 01	Paper and cardboard waste	2	to	VA (in bulk, covered)	solid	exploita tion	yes	correct quantitative supply of auxiliary materials in the wagon's equipment	permanent	Purch Tech stand requi shop Asse	
20 01 36	DEEE	9	to	RM (metal container)	solid	exploita tion	nu	-	-	-	
17 09 04	Construction and demolition waste	40	to	RM (metal container)	solid	disposal	nu	-	-	-	
02 01 03	Vegetable tissues	50	mc	RM (metal container)	solid	disposal	nu	-	-	-	
15 02 03	Absorbents, filtering material	300	mc	RL (wooden containers)	solid	disposal	nu	-	-	-	
12 01 21	Grinding parts	15	to	RM (metal container)	solid	disposal	yes	supply of superior quality grinders to be used for a longer period in the technological process care in the use of these parts	permanent	Purch shop Rom	
16 11 02	Lining and refractory material	2	to	RM	solid	disposal	yes	Correct operation of forging furnaces within	permanent	Purch mech	

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				(metal container)				the parameters established in the technical books + supply of quality refractory bricks		shop FCC
16 11 04	Lining and refractory material	2	to	RM (metal container)	solid	disposal	yes	Correct operation of forging furnaces within the parameters established in the technical books + supply of quality refractory bricks	permanent	Purch mech shop Rom

Hazardous waste generated

Waste code	Waste name	Estimated qty.	MU	Collection method, temporary storage	Physical condition	Exploitation/disposal	Reduction of waste generated	Proposed measures	Deadlines
08 01 15*	Aqueous sludges containing paint	20	to	RP (recipient plastic container provided by the collaborating company)	semi-liquid	Energetic exploitation	yes	the supply and rational use of paints	permanent
13 02 07*	Engine, transmission and lubricating oils	20	to	RM (metallic barrel)	liquid	exploitation by recycling	yes	rational supply and use of oils	permanent
08 01 11*	Paint solvent waste	5	to	RM (metallic container) or RP (plastic containers)	semi-liquid	Energetic exploitation	yes	Standardisation, supply and use rationala a vopselelor	permanent

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09 01 04*	Fastening solutions	7	to	RP (plastic barrels provided by the collaborating company)	liquid	Exploitation with Ag recovery	yes	introduction of Rx equipment that does not require the use of film	permanent
20 01 21*	DEEE waste, neon tubes and bulbs	1,5	to	A (cardboard boxes)	solid	Exploitation with recovery of component materials	no	-	-
17 06 05*	Building materials with asbestos	6	to	Bulk in BAGs (provided by the collaborating company)	solid	Controlled disposal	no	-	-
14 06 03*	Other solvent and solvent mixtures	4	to	RM (metal containers)	liquid	Reintroduction in the technological process in the Bogie shop	yes	Reuse in the technological process of the bogie shop	permanent
12 01 09*	Halogen-free used emulsions and grease solutions	10	to	RM (metal containers)	liquid	disposal	no	-	-
12 01 07*	Used halogen-free mineral lubricating oil	12	to	RM above ground	liquid	exploitation	yes	rational supply and use of oils	permanent
12 01 18*	Oil-containing metal mud	2	to	RM	semisolid	disposal	no	-	-

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15 01 10*	Packaging contaminated with hazardous substances	5	to	RP	solid	Energetic exploitation	no	-	-
15 02 02*	Absorbents, filtering material, protective clothing	20	to	RM	solid	Energetic exploitation	no	-	-

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3.1. Current status of equipments.

crt. no.	Equipments	Destination	No. of pcs.
1	Concrete platform	For the temporary storage of non-hazardous waste	1000 sqm
2	Covered shed	For the temporary storage of non-hazardous waste	100 sqm
3	Hazardous waste storage	For the temporary storage of non-hazardous waste	100 sqm
4	Forklifts	For internal waste handling	11
5	Presocontainer (provided by the collaborating company)	For collection and transport of cardboard packaging waste	1
6	Mobile crane	For separate collection	1
7	Trucks	For internal transport of waste	2
8	Fork-lift trucks	For internal transport of waste	12
9	Tractor	For internal transport of waste	1
10	Stackers	For internal transport of waste	5

4. MEASURES FOR THE MANAGEMENT OF WASTE GENERATED ON THE SITE, IN ACCORDANCE WITH THE LEGISLATION IN FORCE

- ✓ Waste from the activity is collected separately for each type of waste.
- ✓ All categories of waste are disposed of in an environmentally friendly manner, in plastic/metal/bag containers etc, labelled according to the waste code. The formation of stockpiles that could present a risk of fire, odours etc to neighbours will be avoided.
- ✓ The storage site for recyclable/valuable waste is enclosed, on a concrete platform, with a roof and protected from the weather.
- ✓ Hazardous waste shall be stored in metal containers, resistant to mechanical and thermal shock, sealed, the storage space concerned shall be equipped to prevent and reduce accidental pollution.
- ✓ When handing over the waste, proof of traceability of hazardous or non-hazardous waste is requested and kept in accordance with legislation.
- ✓ It will avoid the formation of stockpiles that could endanger human health and damage the environment (risks of pollution of water, air, soil, fauna, flora, generation of odours, risk of fire for neighbours).
- ✓ The transport of waste is carried out only by economic operators holding an environmental permit according to the legislation in force for collection/temporary storage/treatment/valorization/disposal activities based on HG 1061/2008 on the transport of hazardous and non-hazardous waste on the territory of Romania.
- ✓ When handing over the waste, three copies of the Non-hazardous Waste Loading - Unloading Form (Annex 3) or the Hazardous Waste Shipment/Transport Form (Annex 2) must be completed, as appropriate, for each type of waste, in accordance with GD 1061/2008 on the transport of waste on Romanian territory. They will be signed and stamped by the generator, the transporter and the authorised collector/valoriser/final disposer, one copy being given to the waste producer (the generator, the one who delivers this waste). This copy can also be sent by fax or post, with acknowledgement of receipt, to the generator, who keeps it as part of the waste management record drawn up in accordance with HG 856/2002.

✓ HAZARDOUS waste may be transported without further approvals from the competent authorities (APM, ISU) ONLY IF in one year, regardless of the number of shipments made, the total quantity IS LESS THAN 1 TON. For annual quantities greater than 1 tonne, the strict registration and approval regime laid down in HG 1061/2008 must be respected.

✓ In order to ensure the traceability of the waste generated, regardless of the category of waste delivered (non-hazardous or hazardous), the non-hazardous waste loading/unloading forms or hazardous waste dispatch/transport forms must be completed in full, with number and series, the data of each operator involved, the category of waste transported, the COD and QUANTITY collected, and the final destination (recovery/disposal).

✓ The company also has contracts with all collectors authorized to take the waste generated and their environmental permits, which specify the activity of taking, collecting, transporting waste for recovery and/or disposal operations, and most importantly, the waste codes collected. If the waste is taken over for temporary storage at the collector (who is not the final recoverer/disposer), the collector is obliged to provide the generator with data on the facility where the recovery/recycling/disposal operation will be carried out (name of the economic operator, environmental permit, if applicable certificate of recovery/disposal of the waste taken over).