

Original Article

Investment Programmes in Environmental Infrastructure Elaborated by the Ministry of Environment and Water Management (MMGA). A Case Study: Municipal Waste Transfer Station from Zlatna Town, County of Alba

BRAȘOVEAN Ioan*, Ioan Gh.OROIAN, Cristian IEDERAN, Constantin MIHAI - OROIAN, Andrei FLEȘERIU, Petru BURDUHOS, Cristina MOROȘAN

*University of Agricultural Sciences and Veterinary Medicine Cluj - Napoca, Mănăștur St., No. 3 - 5,
400372 Cluj-Napoca, Romania*

Received 9 May 2011; received and revised form 20 May 2011; accepted 28 May 2011
Available online 1 June 2011

Abstract

According to GD 349/2005 classifies the landfill depending on the nature of the waste and MAPM Order nr.95/2005, stability acceptance criteria and procedures for storage and disposal of waste accepted in the national list for each class of deposit waste transfer station can be classified as temporary storage for hazardous waste.

In the town of Zlatna waste management within the funding program "Rehabilitation of Small and PSC Zlatna hot" worth 53 million euros, being one of the seven investment objectives: (rehabilitation of the sewerage system, sewage system rehabilitation, ecological industrial zone , etc.).

Existing work in the waste transfer station in the town of Zlatna, Alba County, according to STAS 4273/83 are included in the class of importance 4. The activity of the Department of Sanitation Zlatna the Hall, is: pre-collection, collection, transport and sorting, containment of municipal waste generated within Zlatna City and adjoining villages.

To be organized activity of collecting 21 points as plaforme waste with a total area of 1012 sqm. These collection points are located throughout the city adiministrativ Zlatna. Transfer stations are established in order to reduce transport costs compared to using several vehicles through which waste would be transported directly from the collection areas indicated for treatment or disposal facility.

Keywords: waste management, environmental protection, transfer station, recycling

1. Introduction

Since 1970 to realize that waste is a problem and the treatment methods in landfills and incineration are not satisfactory and the United Nations Conference on Environment and Development in Rio de Janeiro in 1992 and have adopted policies that have been placed on the world plan.

Regarding the first objective of the European Union policy in waste management is to minimize the negative effects of the generation and waste management on human health and the environment. Waste policy aims to reduce resource consumption and promote the practical application of the "waste hierarchy, which classifies the different waste management options, from best to least good for the environment, such as: prevention, reuse, recycling, recovery energy and disposal by incineration or disposal.

According to this hierarchy is accord priority to waste prevention, followed by the amount of

* Corresponding author.
Tel.: 0264596384; Fax: 0264593792
e-mail: brasovean_ioan2005@yahoo.com

waste minimization, waste reuse, recycling, energy recovery and finally, disposal by incineration or disposal. Although the waste hierarchy should not be regarded as a rigid rule, for moving towards a recycling and recovery means that reuse and recycling should be preferred to energy recovery and the disposal by incineration or disposal.

The 6th Environmental Action Programme of the European Union, which was adopted in 2002, sets the policy priorities of environmental protection, sustainable use of natural resources is often and waste management. Thus, two strategies have been launched by the European Commission:

Thematic Strategy on the *sustainable use of natural resources*, which aims to reduce negative environmental impacts caused by the use of natural resources for economic growth

Thematic Strategy on *waste prevention and recycling*, long-term strategy of the European Union, which promotes a "recycling society" in Europe, and providing the framework for the European Union waste policy review in light of the priorities set out in the 6th program.

This strategy is intended to clarify and simplify the legislative framework and the introduction of new waste management tools such as life cycle analysis.

Waste management is one of the most acute problems of environmental protection. Irregular practices, but still present, waste management, and directly deposited on land without complying with minimum requirements, the discharge into waterways, and uncontrolled burning is a major downside for both the environment and human health [1].

2. The general legal framework for environmental protection in Romania

The general legal framework for environmental protection in Romania is represented by:

- Environmental Protection Law 137/1995, republished with subsequent amendments (OJ 505/14.07.2033)

- Water Law 107/1996 with subsequent amendments (MO584/30.06. 2004)

- Emergency Government Ordinance 243/2000 (OJ 633/06.10.2000) regarding the protection of the atmosphere, approved with amendments by Law 655/2001 (OJ 773/04.12.2001)

- Government Emergency Ordinance no. 236/2000 (OJ 625/04.12.2000) on the status of natural areas, natural habitats, wild flora and fauna, approved by Law no. 462/2002 (OJ 433/02.08.2001)

- Government Emergency Ordinance 78/2000 (OJ 283/22.06.2000) on waste, approved with amendments by Law 426/2001 (OJ 411/25.07.2001)

- Government Decision 918/2002 (OJ 686/17.09.2002) establishing the framework procedure for environmental impact assessment and approval of public or private projects list subject to this procedure

- Emergency Ordinance 34/2002 (223/03.04 MO. 2002) on the prevention, reduction and integrated pollution control, approved with amendments by Law 645/2002 (OJ 901/12.12.2002)

- Government Decision 856/2002 (OJ 659/05.09.2002) on waste management and approval records list of wastes, including hazardous waste.

Communitar acquis in the field of waste management includes a total of 16 acts, most of which have already been transposed into Romanian legislation.

3. Current state of waste transfer stations in Romania

In the period 2006 - 2009, were put into operation 12 transfer stations, namely:

1. Transfer station Busteni, Prahova County - design capacity of 7600 tons per year, environmental license no. 517/9.10.2008;

2. Doftana Valley Transfer Station, Prahova county, capacity 448 m³ / day - No environmental permit. 598/03.12.2009;

3. Town Transfer Station, Ialomita - design capacity of 20,000 tons per year - No environmental permit. 152/18.09.2006;

4. Ialomita county transfer station Fetesti - design capacity of 20,000 tons per year, environmental license no. 49/09.04.2009;

5. Transfer Station Zlatna, Alba County - capacity 3000 t / year - No environmental permit. 122/10.06.2009;

6. Abrud transfer station, county Alba - capacity 4000 t / year - No environmental permit. 149/12.08.2009;

7. Transfer and sorting station Medias, Sibiu County - capacity 22,500 t / year - No environmental permit. 215 of 01.08.2006, valid until 01/08/2011, revised 09/04/2009;

8. Transfer Station Gura Humorului, Suceava county - 1,000 t / year / authorization Average no. 305/31.07.2009, valid until 31.07.2019;

9. Transfer and sorting station Worcester, Suceava - 20.5 t / day - No environmental permit. 556/10.11.2006 revised on 14.08.2009, valid until 10.11.2011;

10. Transfer station tourist area Bran, Brasov County - capacity 140 mc / month - Environmental Permit No. 131/24.09.2009;

11. Transfer station, sorting and baling facility Micro Lower Ciuc, Harghita County - capacity 650 t/year - No environmental permit. 195/12.11.2009 valid 12/11/2019;

12. Reghin transfer and sorting station, Mures County - 16,500 t / year - No environmental permit. 202/2009.

4. Overview of municipal waste management situation in the town of Zlatna

Pilot program to build a waste transfer station

Ministry of Environment and Water Management (MEWA) started, GD 571 of 26 April 2006, a program of investment in environmental infrastructure totaling 323 million euros,

The program consists of three projects for the rehabilitation of the pilot program and the PSC Small Zlatna hot, upgrading water supply and wastewater in the basin Cris, in Vaslui county in Ploiesti and integrated waste management system in Iasi, in counties Satu Mare and Sibiu.

Projects address a ten territorial administrative units: Zlatna local councils, the PSC Minor, Ploiesti, Oradea, Alba Iulia, Valea lui Mihai, Iasi and Vaslui county councils and Satu Mare.

Thus, Zlatna will benefit through the program, the expansion and rehabilitation of water supply, sanitation system rehabilitation, but also arranging Ampoi River and its tributaries. At the same time will make greening and removal effects of pollution in the industrial zone dismantled, and ecosystem restoration in areas affected by pollution. By implementing projects, the PSC will hold a Small Area drinking water supply and sanitation, while enjoying the façade rehabilitation and building roofs damaged by pollution and the creation of a regional municipal waste management.

Projects are funded in 75% of the state budget through the budget MEWM remaining 25% local contribution. Exceptions are projects that address areas Copșa Zlatna and Minor, funded entirely from the state budget.

Project implementation stage

The project is being implemented in 2007 began work to be completed in December 2010, but funding was delayed due to extended the deadline for completion by 2012.

Main objective:

Implement an integrated and environmentally effective and economically for waste management.

Main Works:

- a) Rehabilitation of existing waste collection system, based on the selective collection;
- b) Construction of transfer stations
- c) The sale of recyclable waste.
- d) the current waste landfill closure.

Rehabilitation of sanitation system in the town of Zlatna, as part of the waste management system in White County, requires new technical solutions based on selective waste collection system, machinery and equipment used to transfer waste from the proposed new collection points, transfer station and then directing them to specific channels for storage or revaluation.

Database for waste management within the transfer station

The activity of the Department of Sanitation Zlatna the Hall, is:

- precollection
- collection
- transport and sorting
- storage of hazardous waste, municipal waste in the city and villages belonging Zlatna.

To be organized activity of collecting 21 points as platform waste with a total area of 1012 sqm. These collection points are located throughout the city administrative Zlatna.

According to the transfer station design capabilities are:

- Quantities of waste collected annually: 6140 m / year
- The area covered in the transfer station: 4800 m
- Sorting waste warehouse area: 1250 sqm
- Operating: Permanent 254 days / year, 5 days / week, 8h/zi
- Number of staff: 12 people

The amount of waste collected in the year 2010 was 6140 cubic meters / year -> 1780 t / year of which:

1. Biodegradable waste, 85%> 5220 m / year -> 1510 t / year
2. 15% recyclable waste -> 920 cm / year -> 266 t / year

Regarding the composition of recyclable waste fractions were recorded the following data:

- Bottle = 95.5 t / year
- PET + plastic = 65.4 t / year

- Paper + cardboard = 87.6 t / year
- Aluminum Dose = 17.5 t / year
- Total = 266 tons / year

Monitoring of environmental factors in the station

During operation of a transfer station for municipal solid waste can result in the following types of emissions:

- air emissions;
- emissions to water (direct or indirect);
- noise emissions

One of the main problems is related to a transfer of odors caused by putrescible waste which degrades throughput during the transfer station. Also, particulate emissions can occur due to transport, and waste dumping area.

Monitoring of emissions into the atmosphere are carried out under the permit, the environment, aiming, mainly, the concentration of particles.

Conclusions

According to GD 349/2005 classifies the landfill depending on the nature of the waste and MAPM Order nr.95/2005, stability acceptance criteria and procedures for storage and disposal of waste accepted in the national list for each class of deposit waste transfer station can be classified as temporary storage for hazardous waste.

Rehabilitation of sanitation system in the town of Zlatna, as part of the waste management system in White County, requires new technical solutions based on selective waste collection system, machinery and equipment used to transfer waste from the proposed new collection points, transfer station and then directing them to specific channels for storage or revaluation.

Zlatna town residents and the 18 adjoining villages, businesses and institutions served - project gupul target - will benefit from:

- Health services proposed in the project, to European standards
- Reduce air pollution due to waste collection in an organized and civilized
- Improving the quality of life and environmental conditions, general appearance of the city
- Increase education regarding the collection and recovery of waste.

References

- [1] Proorocu M., 2005, Gestionarea deșeurilor, Ed. Napoca Star, Cluj-Napoca
- [2] ***, Ordonanța de Urgență a Guvernului nr. 78/2000 privind deșeurile
- [3] ***, Legea apelor 107/1996 cu modificările și completările ulterioare (MO584/30.06.2004)
- [4] ***, Ordonanța de Urgență a Guvernului 243/2000 (MO 633/06.10.2000) privind protecția atmosferei, aprobată cu modificări și completări prin Legea 655/2001 (MO 773/04.12.2001)
- [5] ***, Ordonanța de Urgență a Guvernului nr. 236/2000 (MO 625/04.12.2000) privind regimul ariilor naturale, conservarea habitatelor naturale, a florei și faunei sălbatice, aprobată prin legea nr. 462/2002 (MO 433/02.08.2001)
- [6] ***, Hotărârea de Guvern 918/2002 (MO 686/17.09.2002) privind stabilirea procedurii-cadru de evaluare a impactului asupra mediului și pentru aprobarea listei proiectelor publice sau private supuse acestei proceduri
- [7] ***, Ordonanța de Urgență 34/2002 (MO 223/03.04.2002) privind prevenirea, reducerea și controlul integrat al poluării, aprobată cu modificări prin Legea 645/2002 (MO 901/12.12.2002)
- [8] ***, Hotărârea de Guvern 856/2002 (MO 659/05.09.2002) privind evidența gestiunii deșeurilor și pentru aprobarea listei cuprinzând deșeurile, inclusiv deșeurile periculoase.