

ENVIRONMENTAL PROBLEMS ON THE ROADS FROM THE BANAT'S MOUNTAINS

Mircea GOLOSIE
Ioan ZAHARIA

Abstract: *In the Banat's Mountains, the coal and ore exploitations are very old. But, starting after 1770, these exploitations began to develop. Thus, the first systematized industrial roads appeared. Many of these roads were constructed over the waste dumps or with the materials from these ones.*

This is a case of DN 58 road, too. This road passes by the centre of Anina city and it was planned for the transport by carts (200-300 kg). Later, this road was modernized for motor transport (3-4 tones) and after this for vehicles of 30-40 tones. At the moment this tonnage is over fulfilled which determines the settling of the support of the road and of the dumps from proximity.

Keywords: *environmental issues, mountains, roads*

In Anina there are over 60 waste dumps and over 20 mine shafts. Its underground is traversed by a dense network mine galleries, which reach 1500 m depth. Finally, it arrived to a self – ignition of a dump, which influenced the stability of the flats from the area. A few causes determined the initiation of the fire:

- The pyrite content from the coal (by oxidation, pyrite generates high temperatures, which can initiate the self-ignition of the coal);
- The absorption of oxygen directly or by dissociation of the water at high temperatures, is facilitated by the mountainsides of the dumps;
- If the coal contains humic acids, it has big chances for self-ignition;
- The degree of settling releases the self-ignition and promotes the propagation of the underground fire.

At the moment, the covering of the dump (with asphalt or concrete), the drainage of the water, the repair of the road and speed restriction in the area determined the cease of the fire front. Without other favorable elements, the fire will stop itself.

The problems in this area are complex. To solve them, it needs more than theoretical projects. A lot of money should be spent for these. Now, it must involve both the infrastructure owners (railway companies, roads companies, the Mayoralty, the Prefecture, the State Domains, the habitants) and the beneficiaries (the conveyors, the habitants, the tourists, the commercial societies). But, for this it must respect the European Directives, which are very

clear. The main problem is who is responsible for the pollution, because many of the companies don't exist anymore and the others motivate their activity in concordance with old standards.

On DJ 573 Oravita – Ciudanovita there are big environmental protection problems, due to the uranium ore exploitation (pechblenda – UO_2). In 1890-1900 the Austrians made the first ore exploration. The First World War interrupted the studies. In inter-war times, the Germans transported the “construction materials” from the area, by tracks. The ore was sorted and was sent without telling the truth about the materials.

After the Second World War, the Russians made the same but on a larger scale. It was a period when the zone didn't appear on the maps. The Sovroms extracted more ore than they could transport. In 1964, the Sovroms were abolished but the waste dumps or ore dumps remained. In this zone are over 30 dumps and the road passes near the 20 of them. Only 10 % from the dumps have very poor ore.

The contaminated surface in the area of DJ 573 has about $2 \times 10^5 \text{ m}^2$. The levels of radiation are over 10.000 c/s in some zones. And the radiation is increased by the radiation gases (radon and thoron) which came from the abandoned galleries and mines. These gases make a kind of “carpet” in the entire valley, in the calm days.

In the railway station Ciudanovita was a ramp for load the ore (now it is clean) over the road. Till 1992 here it unloaded the lorry (which came uncovered) and from here each day 1-2 trains went to Feldioara. Sometimes the tracks were uncovered and the ore was not moistened with water.

Only in 2004 the zone was marked and delimited by barriers for stop the access. The wind and the rains cleaned up the road but the area has problems further on.

At the entrance in Ciudanovita village (Oravita –Ciudanovita way), the road passes over a waste dump which has some ore too (and a high radioactive level).

The heavy transport affects the concrete isolation of the dumps. At the moment, the rainwater trickles in the dump and drains in the gullies near the road.

This area has big problems, both for the infrastructure owners (railway companies, roads companies, the Mayorality, the Prefecture, the State Domains, the habitants) and the beneficiaries (the conveyors, the habitants, the tourists, the commercial societies).

We consider that the problems from this area can be solved only by collaboration and the participation of all make-decision elements, in concordance with European Directives. Some measures should be applied immediately (marking, public report). After this, it should apply the clean-up of the area, but not only theoretical, like till now.

Conclusion:

- Council Directive 75/442/EEC of 15.07.1975 on waste was not applied. In accordance with this, it is necessary to lay down minimum requirements in order to prevent or reduce as far as possible any adverse effects on the environment or on human health which are brought about as a result of the management of waste from extractive industries:
 - Tailings (i.e. the waste solids or slurries that remain after the treatment of minerals by a number of techniques);
 - Waste rocks;
 - Overburden (i.e. the material that extractive operations move during process of accessing an ore or mineral body);
 - Topsoil (i.e. the upper layer of the ground).
- Communal and county roads were layout using materials from waste dumps, placed near the roads. Therefore each company should be very attentive when he uses these materials. In order to minimize the risk of accidents and to guarantee a high level of protection for the environment, for the workers and for the beneficiaries, each operator waste facility should applies a major – accident prevention policy for waste.
- Because of the special nature of the management of waste from the extractive industries, it is necessary to introduce specific application and permit procedures in respect of waste facilities used to receive such waste.
- In accordance with UNRCR Convention on Access to Information Public Participation in Decision-making and Access in Justice in Environmental Matters of 25.06.1998 (Aarhus Convention), the public must be informed of the application for a waste management permit and the public concerned must be consulted prior to the granting of a waste management permit.
- The problems were not considered, before, for the access zones to different installations or to the platforms for transport and for load-unload.
- Should be establishing, also, the monitory procedures during and after-closure of waste facilities. The Directive 1999/31/EC required these procedures, but the information not arrive in time at the companies or at the beneficiaries.
- The companies used and use yet sand from ponds or alluvial sand without respect the Directive 2000/60/EC of the European Parliament and of the Council of 23.10.2000, which establish a framework for Community action in the field of water policy.

- When they use these types of waste, it is necessary to apply Article 7 of Directive 75/442/EEC which requires the management of waste does not conflict directly or otherwise interfere with the implementation of the relevant waste management plan.
- Considering that many mining activities was stopped long time ago, when a company lay out a road or uses materials (waste) from mining areas, it is obligatory to consult the public. In accordance with the provisions of Directive 2003/4/EC the European Parliament and of the Council of 28.01.2003 on public access to environmental information, the population from the respective area is the first beneficiary and the first affected by the construction. Therefore the public concerned have the right to say there opinion. The results of the discussions will be considered for make decisions.

BIBLIOGRAPHY

Author's own research

NOTES ON THE AUTHOR

Mircea GOLOSIE is an engineer in telecommunications. He has implemented the first integrated communication systems at "Politehnica" University in Timisoara. He has also developed transmission systems for remote areas, such as abandoned mines. He developed a system of mobile laboratories to research the contaminated areas. His interests include old engineering, paleo-engineering. He has published scientific articles and books on durable development. He is member of various international organizations and a specialist on emergency situations (DEF-Environmental Danubian Form; TIEMS-The International Emergency Management Society).