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MINE SURVEYING CONTROL OF THE CONCESSION GRANTER

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ABSTRACT

Subsoil protection and rational use of ores and minerals are basic responsibilities of the concession granter. These obligations can be fulfilled only by spatial-geometrical fixation of the exploration and extraction operations in accordance with the designation of the concession. The spatial-geometrical fixation is carried out only by mine surveys. Law does not regulate the mine surveying control of the concession granter. In this connection, in 2002 a team of experts from the University of Mining and Geology was commissioned to draw up a draft proposal for effective mine surveying control on the part of the concession granter.

The concession for extraction of ores and minerals, known since 1891, was renewed several years ago – Art. 4 (2) of the Ores and Minerals Act (OMA). Two legal persons again came into being: a concession granter (the Council of Ministers or the respective authorized ministry) and a concessionaire (the person carrying out the extraction of the ores and minerals). The control of the concession granter is multi-directional but concerned mainly with the subsoil protection and rational use of ores and minerals for the following reasons:

- The non-renewable nature of ores and minerals given the present mining and primary processing operations;
- The ores and minerals belong both to the present and future generations so that human development will be disrupted if we disregard the public benefits from the subsoil;
- Huge investments are demanded to prepare the extraction of ores and minerals whose return requires a long period of time;
- In the ex-Soviet bloc countries the money for exploration, development and preparation for extraction was provided by all taxpayers that presupposes maximum dividends from the development of a given mineral deposit;
- The degree of technogenic transformation of a certain geogenic deposit determines the risk of anthropogenic and ecological disasters.

The inspection agencies of the concession granter responsible for subsoil protection and rational use of ores and minerals are obliged to establish the facts objectively and report the result s of the inspection under Art. 92(1) of OMA.

Practice dictates and Art. 81 (1), (2), (3) and (6) of OMA specify the documents (surveying maps, cross-sections, records and statistical data) that have to be kept for each mine and quarry with respect to subsoil protection and rational use of ores and minerals. These documents serve as a basis for the inspection agencies of the concession granter to fulfil their control functions in respect of the rational use of ores and minerals. The documents contain concepts related to two groups of categories – the current output report (statistical data) and the mine surveying report (shortly mine surveying control).

These categories have to be specified. The current output report presents data on the ores, minerals or rock mined per shift, day, month determined by the number of transport vessels and the mass in each vessel or directly weighed during the transportation from the mine excavation. Mine surveying is a complex of surveys of the mine excavations, spoil heaps, loaded transport vessels, etc. The survey results are used for preparing the mine surveying report on the state and movement of the industrial reserves, losses and contamination in the subsoil, the mineral extracted and the volume of mining operations performed for a definite period of time.

Practice dictates and the normative base specifies that the mine surveying control is a basis for determining the state and movement of the industrial reserves and the volume of mining operations. The following can also be adduced to support the statement about the advantage of the mine surveying control over the current output report (control):

- Mine surveying reflects the actual state of the industrial reserves. It is objective and permits the storage and reproduction of objective data;
- Surveying maps and graphic documents have acquired the force of legal evidence both in the Bulgarian and international practice due to their objectivity.
- The quantitative and qualitative parameters of the mine surveying control are a proper basis for determining the level of utilization of ores and minerals and subsoil protection.

The mine surveying control of the concession granter concerning the industrial reserves in a chronological sequence requires the implementation of the following stages:

- Stage A. Determining the geological, geodetic-mine surveying and mining-technological status of the site.

- Stage B. Establishing the norms used by the concessionaire (sector and specific norms set by the concession granter).

- Stage C. Assessment of the mine surveying operations on the site.

- Stage D. Check surveys, calculations and graphic constructions.

- Stage E. Drawing conclusions about and evaluation of the concessionaire's activities.

The concessionaires, according to Art. 22 of OMA shall provide to the Ministry of Environment and Water information about the state and changes in the reserves and resources in the granted areas as well as the geological and technical documentation required for inspecting their activity every year or at request but not more than twice per year.

The conclusions about the concessionaire's activity shall involve all activities related to the granted concession under the Ores and Minerals Act and the concession contract signed. They shall express an opinion on the methodological execution of the mine surveying operations and observance of specifications and instructions.

The mine surveying control shall result in preparing documentation that contains quantitative and qualitative characterisation of the control activities performed, description of the inspections carried out by types of operations and the omissions, inadequacies and errors found. If necessary, proposals are made to eliminate the established defects.

Over the last decade no control has been exercised on the mine surveying activities by administrative bodies. This resulted in interested companies and organisations commissioning control determination of volumes of extracted and/or transported subsoil material in case of dispute as a rule. Except for two pilot sites, no mine surveying control has been exercised on concessionaires by a concession granter. On the basis of experience, the following conclusions can be drawn:

1. The structural changes in the mining sector eliminated the three-level organisation of the mine surveying activities and their control. The lack of agencies that can exercise control on the activities of the mine surveyors in the mining companies resulted in a number of negative consequences, the most important being the concessionaire's activity outside the concession area.
2. Conflicts have occurred as a result of slow updating of the normative base for performing mine surveying activities in compliance with the newly passed laws and regulations in the field of exploration and extraction of ores and minerals. This creates problems for the mine surveys, the control on the rational use of ores and minerals, the protection of buildings and structures from the harmful effect of mining operations, the environmental conservation as well as the coordination of activities with other organisations and departments.
3. The efficient control on the concessionaire for carrying out the mining operations in space and time, the extracted ores and minerals and their rational use is impossible without the complete, accurate and timely elaborated mine surveying documentation.
4. The international and national mining practice accepts the results of the mine surveys, calculations and graphic constructions as a basis for accounting and determining objectively the actual quantities of mined material and redeemed reserves for a definite period of the concession contract. They also serve as a basis for fixing volumes of activities and payments and are legal evidence in solving disputes.
5. Before the existing and future legislation has been united in a special System (Codification) regulating the prospecting, exploration, extraction and primary processing of the ores and minerals, it is more appropriate to subject certain opinions and proposals to public discussions. The participation of specialists from the mine surveyors' guild in these discussions is motivated and advisable because there is a great number of university disciplines that they study during their training. These include the scope and aims of mine surveying – determination of the conditions for extraction, use and protection of the subsoil resources and environment based on modern, reliable and objective information about the spatial and temporal position of a certain element in exploring and/or mining the mineral deposit.

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