NATIONAL UNIVERSITY OF ENGINEERING

GEOLOGY, MINING AND METALLURGICAL ENGINEERING

Course: Mines Valuation

PROJECTS EVALUATION MATRIX

Members:

Erika Raquel Gallardo Coz

Juan Guzmán Romaní

Nilton Anthony Rios Villalobos

ABSTRACT

According to the latest report of the ombudsman's office so far this year, 89 social and environmental conflicts have been registered, of which 62.9% belong to the mining sector.

In the Apurímac region, one of the longest mining conflicts in the sector has recently occurred that would have caused substantial economic losses to the company MMG Limited, operator of the Las Bambas mining project, because the company would not have complied with part of the agreement.

Initially Las Bambas within the EIA had planned the construction of a mining pipeline to transport its concentrates, however, when changing its owner, the EIA was modified indicating that the concentrate would be transported by trucks, the conflict started as a result of the where the trucks circulated did not have the license of the community members of the Yavi Yavi farm located in the district of Colquemarca (Apurímac), this, added to the dust and noise generated, unleashed a widespread malaise.

The objective of this paper is the selection of a transport method that does not cause considerable negative impacts to society, for which three alternatives of transport of concentrate identified in the literature, transport by pipeline, transport by trucks and transport have been evaluated. by rail using a decision matrix, in which, in addition to the economic criteria, with a majority weight of 35%, other factors including social, environmental, legal and engineering factors were considered.

As a result of the weighting of the decision matrix, a score of the concentrate transport system is obtained by mining pipeline of 3.59, for the transport by trucks 2.49, for the transport by rail 2.16.

From the results of the decision matrix, the transport method of concentrating by mineraduct was selected, this alternative is the most economical and also generates less social and environmental impacts.

Keywords. Decision matrix, mining pipeline, trade off, risk, impacts.

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CONCLUSIONS

1. The total cost of transporting the concentrate through the mining-pipeline is $ 34,633 million, being the lowest of the three alternatives under evaluation, therefore, it is the best alternative from an economic point of view.
2. From the results obtained in the decision matrix for the evaluation of the three alternatives of concentrate transport through the weighting of certain criteria considered (economic, environmental, social, etc.), it is concluded that the mining - pipeline is the best alternative to select.
3. Through the review of the available literature regarding methods of transport of concentrate, three alternatives were identified: continuous transport by mining - pipeline, discrete transport through railways and trucks.
4. The transport of concentrate through the mining-pipeline complies with environmental laws regarding the transport of materials, also does not generate significant socio-environmental impacts, in relation to the remaining alternatives.