Institute of Chemical Engineering

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A new innovative way of using of sulphur stream from technological processes KGHM

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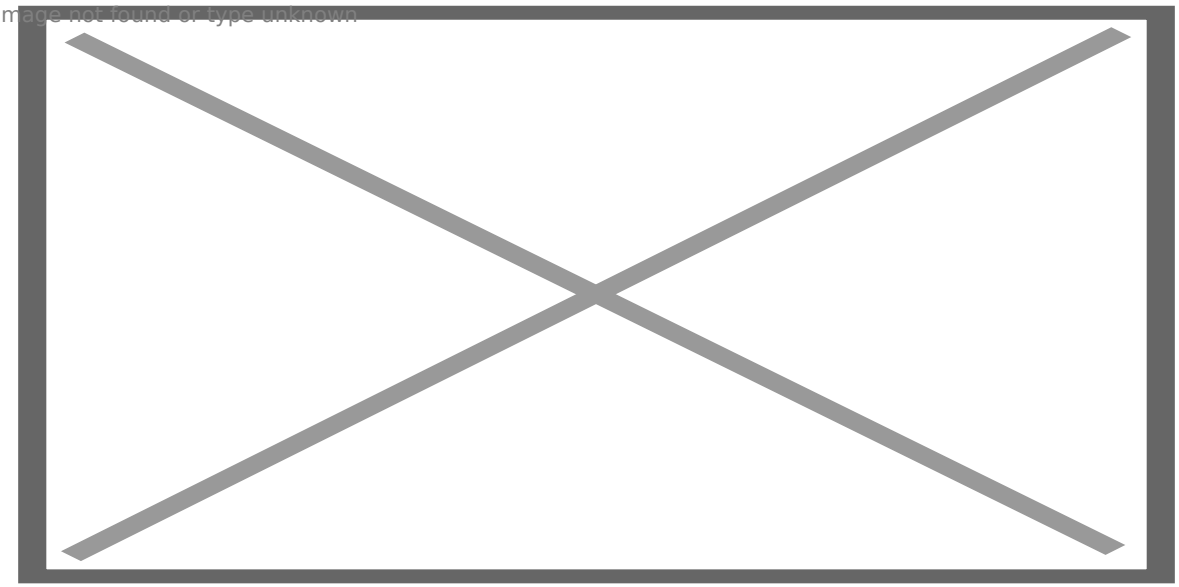

Duration: 2017 - 2021
Description
III Call CuBR, Nr CuBR/III/7/NCBR/2017

The previous method of managing a stream of sulphur from KGHM technological processes consists in producing sulphuric acid using the contact method from process gases containing up to 10% sulphur dioxide. The general concept of project assumes development of a sulphur stream from gases processing in the form of commercial products generated on the basis of calcium sulphate dihydrate. It consists in an initial deep purification of gases in the existing washing unit of the sulphuric acid plant (FKS), sulphur dioxide absorption, concentration approx. 10%, in a 1-degree bubble reactor of innovative structure, with a simultaneous oxidation of calcium sulphate (IV) being generated and crystallization of coarse-crystalline calcium sulphate dihydrate (VI). A filtration gypsum cake drained to the humidity level below 10% is fed to the roasting unit to gain (semi-hydrate) roasted gypsum, being a basis to receive high-value gypsum products, such as: gypsum plasterboards, plasters, putties, blocks and other building materials based on gypsum.

Objectives
The main project goal is preparation of an innovative, technically, technologically, economically effective method of bringing out sulphur from the copper production cycle. Basic technical and technological goals are:

maintaining emission of sulphur dioxide at the required level consistent with BAT conclusions,
obtaining a full quality, marketable product of commercial value higher than currently produced sulphuric acid,
limiting danger of stopped production of copper due to lack of sale of sulphuric acid.

Metryczka

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