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The Gamma Scanning: a Tool for the Quality Control of the Process of Alcohol Distillation

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Gamma scanning is a technology management tool to increase manufacturing efficiency. Modern industrial production requires strict process control, in order to meet established quality standards. The technique of gamma-ray scanning allows nondestructive diagnosis, which has among its applications the study of distillation columns. The method is based on the different degree of attenuation of gamma radiation as it passes through materials of different density. Through the analysis of a vertical density profile, it is possible to identify functioning problems without stopping the industrial process under study, and without physical intrusion. This improves the operational efficiency and reduces the time for maintenance. The present paper shows the results of a study conducted applying the technique of gamma-ray scanning to a distillation column of alcohol from the distillery "Hector Molina". The study revealed the presence of some small anomalies such as the presence of foam in some regions of the distillation column. The identification of these anomalies contributed to improve the efficiency of the tower, improving as a consequence the quality of the obtained alcohol, and contributing to the environmental management system that should be associated to the process of alcohol distillation

Country/Organization invited to participate

Cuba

Primary author: Ms DERIVET, Milagros (Centre of Radiological Protection and Hygiene (CPHR), Cuba)

Co-authors: Mr CAPOTE FERRERA, Eduardo A. (Centre of Radiological Protection and Hygiene (CPHR), Cuba); Ms FERNÁNDEZ GÓMEZ, Isis María (Centre of Radiological Protection and Hygiene (CPHR), Cuba); Mr CUESTA BORGES, Jaime (Centre of Radiological Protection and Hygiene (CPHR), Cuba); Mr CARRAZANA GONZÁLEZ, Jorge Antonio (Centre of Radiological Protection and Hygiene (CPHR), Cuba); Mr FLORES, Juan (Centre of Radiological Protection and Hygiene (CPHR), Cuba); Mr MARTÍNEZ VALDÉS, Julián (Centre of Radiological Protection and Hygiene (CPHR), Cuba)

Presenter: Ms FERNÁNDEZ GÓMEZ, Isis María (Centre of Radiological Protection and Hygiene (CPHR), Cuba)

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