Contribution ID: **437**   Type: **Oral**

Leaks Determinations in Reboilers from Natural Liquid Fractioning Units

Tuesday, 25 April 2017 14:55 (20 minutes)

INTRODUCTION

In recent years, IPEN has developed various techniques based on the application of tracers and radiation sources to solve problems operating facilities oil refining and gas.

The objective of the experiments was to identify leaks and passes in reboilers, either thermal fluid or hydrocarbon products in the reboiler of a depropanizer column, in the reboiler of a debutanizer column and, in the reboiler of a stripping column from a fractionation column naphta-diesel. A set of determinations are reported with various radiotracers experiments in reboilers from natural liquid fractioning units, for leaks / passes that could exist in three reboilers.

The tracer technique for online detection was used, by using two radiotracer depending on the phase to be investigated: oleic acid labeled with Iodine 131 as a radiotracer for the hydrocarbon phase and an aqueous solution of iodine 131 for the aqueous phase, when necessary. A data acquisition system, a portable PC, and detectors in proper positions were used. Recording values were synchronized as well as ambient background, prior to each injection of radiotracer. Radiation counts were recorded at intervals of 1 second, in each case.

Six determinations were conducted by six injection of radiotracer incorporated, either in tubes or shell, as applicable.

We achieved detection limits leakage of 0.1 %, of one stream to another.

Country/Organization invited to participate

Peru

Primary author: Mr SEBASTIAN CALVO, Carlos (Nuclear Energy Peruvian Institute (IPEN), Peru)

Presenter: Mr SEBASTIAN CALVO, Carlos (Nuclear Energy Peruvian Institute (IPEN), Peru)

Session Classification: B06

Track Classification: RADIATION TECHNOLOGIES FOR MEASUREMENT