

## Abstract

Three refineries in Algeria, located on the Mediterranean coast, are supplied by a pipeline coming from the Sahara in the south of the country. The bad state of these pipelines results in a partial or total unavailability of the refineries which can cause, in the long term, a country paralysis concerning the finished manufactured products. Thus, it is very important to find a solution which can move away the spectrum of products unavailability but still remains an optimal solution. The graph theory and Markov chains for stationary flows to solve the problem of the products availability and particularly of the refineries located on the Mediterranean coast are presented. Some of the solutions to overcome the problem of unavailability of products, e.g., reinforcement of storage around the refineries, creation of parallel oil pipelines, and improvement of the working conditions and installations maintenance of the pipelines feeding the refineries, are described. This is an abstract of a paper presented at the 19th International Congress of Chemical and Process Engineering and 7th European Congress of Chemical Engineering (Prague, Czech Republic 8/28/2010-9/1/2010)