

**11<sup>TH</sup> INTERNATIONAL CONFERENCE ON STABILITY,  
HANDLING AND USE OF LIQUID FUELS  
October 18-22, 2009  
Prague, Czech Republic**

**ANALYSIS OF ISSUES CONCERNING THE PRODUCTION AND DISTRIBUTION OF  
LOW SULPHUR DIESEL - One Brazilian's Refinery Experience**

Nelmo F. Fernandes, Paulo Sergio de Souza Rego

PETROBRAS SA, Rod. Fernão Dias km 427, BR 381, Betim, MG, BRASIL 32530-000

Deposit formation in fuels is a continuing problem in the storage instability of middle-distillate diesel fuels. Instability is usually defined by the formation of insoluble sediments and gums. The oxidative degradation of petroleum products is a complex yet fascinating problem. It is becoming clear that the simple description of the oxidative degradation of petroleum products involves many processes like storage conditions, distribution logistics and the refinery production as well. Severe conditions of hydrotreating, particularly high temperatures and low partial pressures of hydrogen can lead to problems of stability in the products of hydrotreating units. The stability issues are primarily related to storage due to the fact that hydrotreated fuels may lead to formation of gums, sediments and change of color after hydrotreating and over time.

Many reports of mechanical problems in diesel engines in the metropolitan area of Belo Horizonte, Brazil, start the analysis of the events related to the distribution logistic, storage and check possible deviations in refinery diesel production.

This paper aims to present the production schedule and optimization of production of diesel in the Gabriel Passos refinery and the studies developed to understand all the issues related to the storage conditions, distribution logistics and the diesel quality. This analysis must extend the scope to the chemical characterization of the feed pool to the hydrotreated unit and the final product from the unit.