

Project Title

Third Winner

**Increasing Motor Gasoline
Product in Refinery**

R&D

Initiator: Bandar Abbas Oil Refining
Company (BAORCO)
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Abstract

Last year the project of use blending naphtha (BN) product has been proposed and done in Bandar Abbas refinery that achieved for the first time in Iran with excellent success. In this project, at first by using the HYSYS simulator software, some sections of distillation unit has been simulated and with changing the process variables in the simulator, the quality of BN product from distillation column, has been changed from his design characteristics condition, so that it is possible to add this product to feed catalytic reformer unit. Then according to simulator, the process variables in distillation units have been adjusted. After ensure about conformity of theoretical and practical data, blending naphtha product that was mixed to finished kerosene or gas oil product of refinery added to the catalytic reformer unit feed, with new specifications. Total new BN in two distillation unit in conformity with simulator calculation, was about 70 m³/hr (35 m³/hr in each unit), that resulted in actual case. In this project, in addition to increasing motor gasoline product, some other expensive results have been obtained as follows:

- 1- Increasing total final SRN about 70m³/hr (is equal 1,680,000 lit/day).
- 2- Increasing the equality of CCR feed and consequently increasing the feed of this unit about 12.5%.
- 3- Eliminate the storage of BN product in Bandar Abbas refinery and ability of adding total SR.Kerosene to gas oil product, so that refinery can set the gas oil product with better quality than before.
- 4- Increasing quality and quantity of light naphtha and so that increasing the feed of LN treating unit (about 50%).
- 5- Increasing the quality of LPG product in distillation unit and eliminate heavy hydrocarbon, from feed of LPG unit and so decreasing load of apparatus, improving the operating condition and increasing the energy conservation.
- 6- At all, in distillation unit, improvement of operating condition, increasing efficiency of desalters, flash drum, heater, atmospheric and splitter tower, eliminate the light gases loss, decreasing the rate of corrosion in overhead system and increasing the energy conservation.