

## 17,500 BPD Selective Hydrogenation Unit (SHU) for Sale

**Capacity:** 17,500 BPD

**Raw Materials:** Light Cat Cracked Spirit (LCCS), Heavy Cat Cracked Spirit (HCCS)

**End Products:** LLCCS, HLCCS

**Year Built:** 2003

### Process Information

The unit is designed for light cat cracked spirit (LCCS), and up to 15% heavy cat cracked spirit (HCCS). The products following distillation (D-3) are: 1) LLCCS stream for gasoline blending. From operational averages this is 40% of the feed, at 46ppm Sulphur, 2) HLCCS stream to feed to the Refinery complex's SHDS unit for deep desulphurisation.

### Main Equipment Includes:

- LCCS and HCCS Feeds
- SHU Reactor
- SHU Fractionator
- Pressure Vessels



### BRIEF PLANT DESCRIPTION

The Selective Hydrogenation Unit process removes sulfur from cracked naphtha with minimal loss of octane, minimum hydrogen consumption and no RVP increase. The SHU reaction converts light sulfur molecules to heavier molecules prior to separation of the light, low sulphur fraction. In this particular unit the SHU reactions are: 1) Selective hydrogenation of diolefins to avoid gum formation in SHDS reactors, and 2) Conversion of light mercaptans and sulphides into heavier sulphur molecules while minimising olefin saturation. The design treat gas ratio is 15 m<sup>3</sup> of H<sub>2</sub> per m<sup>3</sup> of hydrocarbon feed, with a reactor pressure of 23.5 barg, and temperatures of 160°C (start of run) to 200°C (end of run).

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