



FLUIDIZED CATALYTIC CRACKING: REMOTE MONITORING

GENERAL – CUSTOMER BENEFITS

Increasing pressure on refinery margins and Unit On-Stream factor implies that the refinery needs to ensure that the Fluidized Catalytic Cracking (FCC) unit is operating to its full potential.

Systematic and daily monitoring is required to optimise the FCC unit operation in a sustainable way. However, finding the necessary time, resources or expertise to review the available data is not always straightforward.

EPS can support the refinery by reviewing key operating parameters, laboratory analysis and catalyst data from the plant. The data are used to carry out a yield normalisation step and identification of performance trends that are not apparent from existing day-to-day monitoring, such as:

- Declining performance trends masked by short term plant and feedstock variations can be spotted and effective ways to reverse them will be suggested.
- Analysis will reveal potential deterioration of key hardware items and may highlight potential maintenance issue for a following shut-down. For example by indicating level of coke deposition in different parts of the unit.
- The refinery will gain a good overview on the longer term performance of the FCC catalyst and the optimum catalyst addition regime. This will provide a firm basis for potential performance improvements.
- Possible update and fine-tune of the process models used by the refinery.

Most importantly, the refinery will receive advice on options to achieve sustainable performance improvements, not normally apparent from short-term monitoring.



TAILORED PACKAGE

Remote Unit Monitoring packages are tailored to suit individual customer's needs, being characterised by the number of Operating and Laboratory Parameters involved and the frequency of their recording.

Basic Remote Unit Monitoring relies on the customer providing a minimum defined set of data in a standard form on a monthly basis.

More advanced remote monitoring programmes are as well possible and will involve accessing data directly from the refinery operational data supervision system through a direct electronic link.

METHODOLOGY

The proven methodology of the EPS remote monitoring of FCC Units consists of:

1. During a site visit, information is gathered on unit design, operation, run history and current issues. A list of operating conditions and laboratory analysis is established for remote monitoring.
2. Customer will send once per month the operating and laboratory data to EPS.
3. Within 5 working days feedback on the operation and an EPS remote monitoring report is provided.
4. A routine follow-up telecom allows discussions and clarification of the report.



EPS CONSULTANT

The above support will be provided by a principal EPS consultant with world class experience in the technology and operation of the Fluidized Catalytic Cracking Units.

Working for Shell (1975-2010) the consultant has been responsible for provision of technical support to over 10 FCCUs worldwide, including design, commissioning and start-ups of new units. The consultant has contributed to the development of a guide for the Process Safety and Instrument Protective Function (IPF) for FCC and has carried out compliance audits in various locations.

The EPS consultant for this activity has experience with remote monitoring of several process units. In case the customer requires support in other areas than Fluidized Catalytic Cracking, experienced EPS Consultants with other expertise are available to provide support.

CONTACT

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