

A B S T R A C TCorrosion Monitoring of a Vacuum Distillation Unit
in a Petroleum Refinery

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Corrosion monitoring of refinery process equipment assists in understanding the corrosion processes under consideration and provides data for use in controlling corrosion and its consequences.

In this investigation, the processes in a Vacuum Distillation Unit is described and a review carried out on corrosion processes and monitoring techniques in petroleum refineries. Results of observations made during corrosion monitoring in a Vacuum Distillation Unit are analysed.

The corrosion monitoring techniques employed in the Vacuum Distillation Unit have revealed an increase in corrosion rates at some process streams, as a result of change in feedstock containing higher levels of corrodents. The increased corrosion rates depend on the character of the fluid medium, the operating environment and the materials of construction.

Increased surveillance, both on-stream and off-stream, and an upgrade of metallurgy of some construction materials are required due to the accelerated degradation observed. Existing materials which were originally specified and have not performed satisfactorily have been identified and alternatives recommended.

The need for a computerised system to record and manage the data obtained from the monitoring systems has been identified.