
Question 57: Please discuss desalter level control equipment and its effectiveness at detecting and controlling rag layer, oil undercarry and water carryover.

DENNIS HAYES (Nalco Champion)

There are many types of level controllers for desalters, so an exhaustive response is not possible here. Generally, each type has comparative merits based on how robust it is with regard to the various contaminants in desalters, resolution, or cost. Traditional capacitance probes, and also float-type level controllers, have a broad application in desalters and have been used for many years in the industry. The issue with them is that they measure a general position in the vessel but provide limited information with respect to interface width or changes in interface growth. Microwave technology, used in a multiple-probe arrangement, can be used to control the interface level and provide a certain amount of information based on directional expansion of interface. Newer technologies based on emitting sources have applications that produce a high degree of resolution across the width of the desalter interface: the better the resolution –or in other words, the more information about the interface width, emulsion density, and rate of growth/shrinkage, the more information available to proactively adjust operational variables and demulsifier dosage to optimize performance and maintain consistent desalter operations.

MAUREEN PRICE (Fluor)

Two of Fluor's clients have recently moved to nuclear gauges in revamp scenarios on the desalters and are currently evaluating the performance.

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