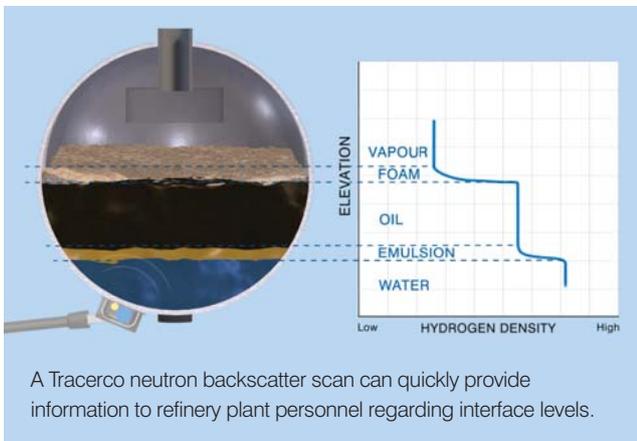


Separator - Interface/Emulsion Detection

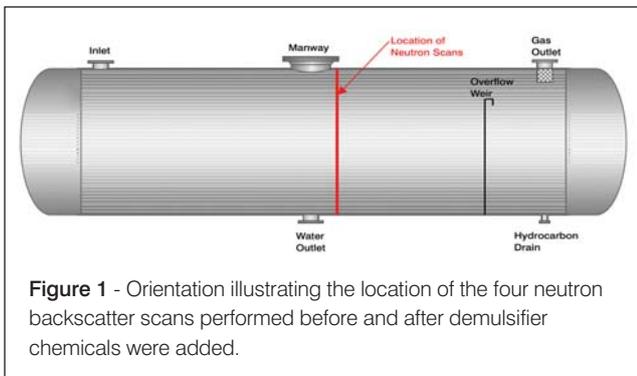
Tracerco's specialist scanning technology is an excellent means of measuring interface levels, whether between vapour and liquids, liquid and solids, or between two different types of liquids.

A scan of vessels yields a lot of information about where various phases are located. In cases where more defined results are needed Tru-Scan™ or tracers are potential alternate methods.



Project Field Test

A Tracerco customer requested scans of their refinery separator to determine the effectiveness of two different demulsifier chemicals. There were four scans performed on the separator, two baseline scans and two scans after the different demulsifier chemicals were added (Figure 1).



The scanning system was held against the side of the separator while digital "counts" were recorded or noted. In this case Tracerco expected very low counts in the vapour phase, very high counts in the water phase, and intermediate counts in the hydrocarbon phase.

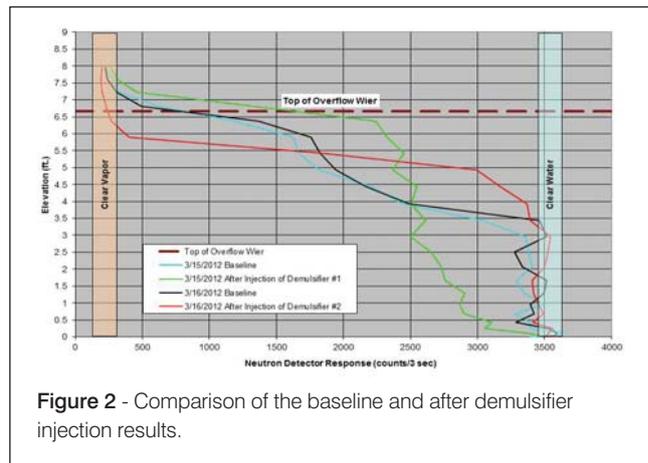
Project Analysis

The scan results are illustrated in Figure 2. The first baseline scan (light blue curve) showed that there was approximately 1m of clear water at the bottom of the separator. A gradual reduction in response was observed from the 1m elevation up to the top of the weir which would be caused by emulsion or foam. The second survey (green curve) performed, after demulsifier #1 was added, showed a severe emulsion had been created, with evidence of less than 15cm of clean water in the bottom.

The third scan (black curve) was a baseline scan performed the next day which showed that the conditions inside the separator had returned to the baseline conditions of the first scan. After demulsifier #2 was added, a fourth survey (orange curve) was taken and the results showed that the emulsion that was on top of the water level had been removed.

Customer Conclusion

Test results - showed our customer that the first demulsifier used created a severe emulsion while the second chemical added appeared to remove the emulsion.



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