
Question 104: How are radioactive surveys and/or gamma scans utilized to optimize FCC operation?

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Monitoring parameters of the FCC such as density and height of catalyst beds, gas and/or solid distribution of the cyclones, air distributor, slide valves and standpipes are accomplished through measurements of pressure, pressure drop and temperature at various locations. These measurements are indirect. Gamma scans (density measurements) and tracer studies (flow and distribution of gas and/or solids) will provide real time direct measurement for improved diagnosis and troubleshooting around the riser, reactor, stripper, regenerator, and standpipes. A well-planned benchmark test can help to document the before and after effects of design or operational changes.

Specific examples include:

- Identify mal distribution of catalyst at the air grid
- Gamma scan to evaluate dip legs, flapper valves, and bed levels
- Main Fractionator Gamma Scans to identify damage, fouling, flooding, entrainment, or weeping
- Radioactive gas tracing of the stripper for hydrocarbon carries under detection

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Year

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