Question 32: In your experience, what contributes to Monel denickelification in the HF Acid Regenerator circuit? What are the potential problems associated with this?

Randy Peterson (STRATCO)

Oxygen is a major cause of monel denickelfication. Oxygen can enter the circuit during loading operations. Care should be taken to avoid pressuring air contained within loading pipes/hoses into the unit.

Whenever monel is overlaid on carbon steel, a “butter” layer of nickel should be laid down prior to the monel layer. This step reduces the potential of a poor quality overlay.

A corrosion problem has been reported with packed regenerators using monel rings. Due to distribution problems commonly associated with packing, portions of the packed beds run dry and hot. The monel tends to severely corrode under these conditions leaving only a copper residue.

Although packed regenerators typically work well when first commissioned, trayed regenerators tend to have less corrosion over time as the trays are kept cool by the flowing liquid. Therefore, fixed valve trays are recommended in this service.

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