Question 60: Assuming good desalting, what are the common / best practices, control ranges and testing frequency of overhead boot water for chlorides - with and without caustic injection?

George Duggan (Baker Hughes)

While general limits are assigned for overhead chloride levels, the reality is that these are simple rules of thumb and should not be relied on to provide satisfactory corrosion control for most systems. Our experience has shown that overheads can experience serious corrosion problems with chlorides as low as 5 ppm and we've seen systems with no corrosion problems when chlorides are 50 ppm. Each overhead system should be examined independently to determine an allowable chloride limit. Rigorous simulation modeling is required for each overhead system to determine the chloride level which will avoid both salt formation and acidic aqueous corrosion. We use the Ionic Model developed by Shell R&D and licensed only to Baker Hughes to carry out the modeling analyses.

Once a chloride target is established, caustic use, with appropriate injection and usage limits, is a proven means to achieve and maintain that chloride target.

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Chlorides

Corrosion

Desalting

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