**A New Torque-Based Technique for Balancing Pumping Units**

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**Abstract**

Traditionally pumping units have been balanced during the initial well design phase using commercially available predictive software packages. Although these tools provide a convenient initial counterweight position recommendation the results many times do not meet the balance criteria forcing the field services crew to have to reposition the counterweights multiple times. This is both time consuming and exposes crew to repeated energy isolation events, multiple lifts, loosening and retightening bolts and generally repetitive tasks with inherent risks to achieve proper unit balance. Changing well conditions continue to create challenges to keep pumping units in balance and require additional intervention to ensure maximum efficiency and optimal torque loading is maintained.

A new methodology will be presented that provides a much more accurate recommendation for the position of the counterweights in real time onsite. This enables the service crew to complete the counterbalance adjustment in one step, eliminating the ‘trial and error’ approach that frequently result in a ‘close enough’ result. This new method has been extensively tested and validated with very favorable results.