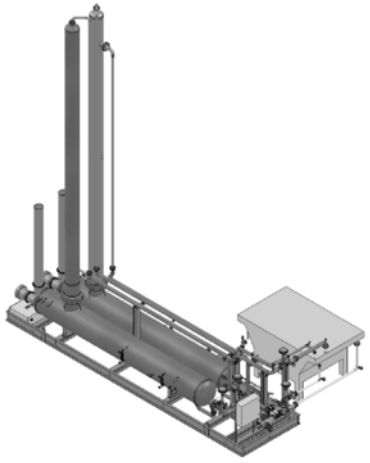
Oil Processing/Zero Emissions

Newpoint Gas, LLC
Innovative Oil & Gas Solutions

Eliminating Process Emissions

Oil specification requirements, in most areas, are a 12 RVP (Reed Vapor Pressure) or less. The common method currently utilized in the industry to achieve this oil specification is to decrease the pressure, in one or more stages. The flash gas emissions emitted from this purification process is a cloud of hydrocarbons which require vapor recovery towers and compression in the attempt to keep these valuable hydrocarbons from being lost into the atmosphere. Wouldn't it make sense to capture the flash gases at the highest possible pressure, extract the gaseous hydrocarbons entrained in the fluid, reducing or even eliminate recompression? Logic dictates this unsophisticated separation process be managed insuring these molecules are first captured and second optimized based on chemistry and value, eliminating waste and emissions.

Incorporating hydrocarbon fractionation into the oil purification process is the solution. Fractionation simultaneously stabilizes oil to the required RVP at the highest available pressure, reducing capital and operating expenses, increases revenue, and eliminates wasteful emissions. Hydrocarbon fractionation is a proven technology and has been utilized in the industry for over a hundred years. Implementation of this proven technology at an oil and gas production site has restrictions due to fact that traditional hydrocarbon fractionation is expensive to build, requires large volumes to justify, and can be difficult to operate. These issues have each been addressed utilizing compact fractionation.



Compact Fractionation Units (CFU)

- Fractionate incoming hydrocarbons into 3 high pressure revenue streams
- The oil production is maximized, the NGL's and Flash Gas are captured
- CFU's eliminate the need for Vapor Recovery Towers and compression

Oil producers know additional stages of separation will yield more oil. To capture the value of this phenomenon, producers are adding medium and low-pressure separators. By utilizing the CFU process, multiple stages of separation are added through trayed or packed columns. The CFU process also adds the advantage of controlling the heat and pressure through each stage of separation. The fractionation process operates by controlling the temperature differential from the top (cooler) to the bottom (hotter – heated by the reboiler). This temperature differential greatly increases the efficiency of the separation process ensuring the oil stream is optimized and not lost in the flash gas stream. For example, the dual-stage CFU process is similar to operating 20 different separators precisely controlling the temperature and pressure through each. This process yields more oil, at higher pressure and at the specified RVP. The flash gases are at higher pressure dramatically reducing capital and operating costs.