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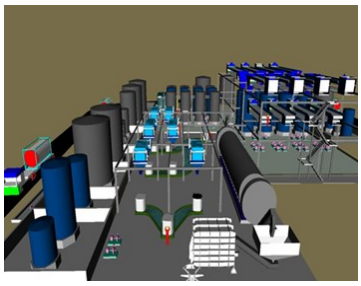


Heavy Crude Deep Conversion - South America

Development from visualisation through to completion of Basic Engineering Package of a unique processing system to treat residue from the HDHPlus® unit being installed as part of their CP RPLC Deep Conversion Project. HDHPLUS® is a flagship technology for Venezuela having been developed in-country and is one of the emerging technologies for sustained bottom of the barrel oil processing. The overall budget for this project is $8B US. GSA^{e} is part of a multidiscipline implementation team which includes fellow international companies TOYO, JGC, Hyundai, Mitsubishi and Wison.

GSA^{e}'s technology can be applied to recover catalytic metals employed in such novel deep conversion technologies. GSA^{e}'s technology recovers the catalytic metals for reuse, preventing their release to the environment, also saving the client significant operating costs (tin this case circa. $150m per year). GSA^{e} is providing multi-disciplined engineering support in the commercialisation of these deep conversion technologies.

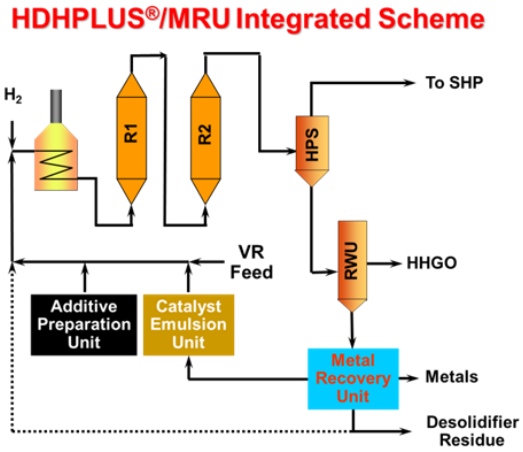
Research and development of the entirely new process at our laboratories in Lincoln, UK.

Conceptual engineering - 15,000 man hours:

- Project development up to +/- 25% cost estimate
- BFD
- PFD's
- HYSYS modelling

Basic engineering – 25,000 man hours:

- Project development up to +/- 15%
- PID's
- Process datasheets
- Layouts
- Equipment / line / valve / instrument lists
- Pre-Hazop



GSA^{e}'s position as a combined metals recovery technology licensor and multi-disciplined engineering group places GSA^{e} in a unique position to offer a full range of services tailored to clients individual needs.

Commercially viable, environmentally sustainable, Metals Recovery Technology Licensors