SELECTING THE RIGHT MID-SCALE LNG SOLUTION with CHART’s IPSMR® PROCESS TECHNOLOGY

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Selecting the Right Mid-Scale Solution with Chart’s IPSMR® Process Technology
- Select the “right size” mid-scale train capacity
- Too small, too many pieces of equipment
- Too large, too difficult to source, expensive and costly to install
- IPSMR® cold box capacities can exceed 3+ MTPA
- Can match largest gas turbine in LNG service, uses Chart’s largest BAHX
- Total capacity achieved by “right sized”, identical parallel trains

Matching Customer Production Needs

LNG production can be enhanced with optional equipment
- Expander/compressor with Heavy Hydrocarbon Removal
- Booster compressor after Heavy Hydrocarbon Removal
- Liquid hydraulic turbines
- Turbine inlet air chilling or MR pre-cooling

Simplicity with Chart’s Heavy Hydrocarbon Removal System

Features include:
- Scrub Column reflux is generated within the HHC module and not reliant on the condensate system or LNG for reflux
- Designed to only remove freezing components from the feed gas
- Easily accommodates feed gas composition changes

Conclusions

Benefits of a “right size” Chart’s IPSMR® mid-scale solution
- Very efficient process, rivaling baseload technology
- Minimum equipment count and complexity, adaptable to available plot space
- Cold box modules reduce field construction cost
- Highly adaptable heavy hydrocarbon removal
- Staged installation and start up
- Low cost per tonne of LNG produced

Operational Benefits

IPSMR® mid-scale liquefaction is typically configured with trains in parallel with a single driver per train
- Production loss with a single gas turbine down equals one train only vs. baseload with compressors/gas turbines in series
- Capacity losses during maintenance are lower with single gas turbine per production train for the same reasons
- Maintenance manpower requirements are also lower and down time is shorter
- Chart’s IPSMR® mid-scale liquefaction process uses fewer pieces of rotating equipment with no MR pumps
- Turndown flexibility is enhanced with multiple parallel trains

Matching Customer Production Needs with Typical IPSMR® Process

Plot Space Utilization
Chart standard practice is to optimize for reduced cost per tonne:
- BAHX cold box size – allowable pressure drop, minimum internal temperature approach, mixed refrigerant composition
- Air cooler foot print – pressure drop, tube length and approach to air temperature-air cooler foot print drives ISBL cost
- Compressor efficiency – compressor ratio per stage and flow rate
- Chart has technical experts to optimize for cost per tonne

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