

LNG Technology

LNG Process License

Single Mixed Refrigeration LNG Process (SMRLP)

ASAP International

US Oil & Gas Technology Group

Present

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See Something what we don't See before
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LNG Technology

- See something what we don't see before

 **Can you spot the two men?**



Bet you can't get it right!
96.7% get this question wrong
officialiqquiz.com

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LNG Delivery Price

- Natural gas market price \$\$2~2.5/mcf @ gas well
- LNG processing cost \$1.1/mcf~0.2%
- Shipping cost \$0.7/mcf
- Re gasification cost \$0.35/mcf
- Total delivery cost \$4.65/mcf
- Natural gas heating value is between 800-1200btu/cube feet.
- mcf=1000 cube feet
- 1 mcf is equal to 1 mmbtu

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LNG world price (07/2012)

- UK \$8.67
- Spain \$10.24
- China \$14.15
- Japan \$14.55
- Korea \$14.55
- India \$12.9
- Rio de janeiro \$13.9
- Bahia Blanca \$15.05

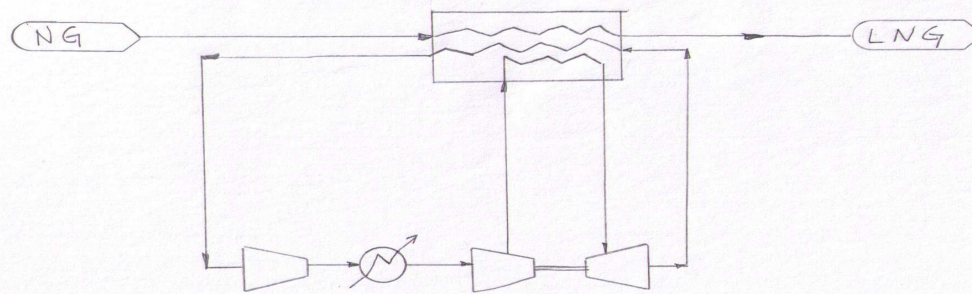
unit: \$/mmbtu

eia 2012, July

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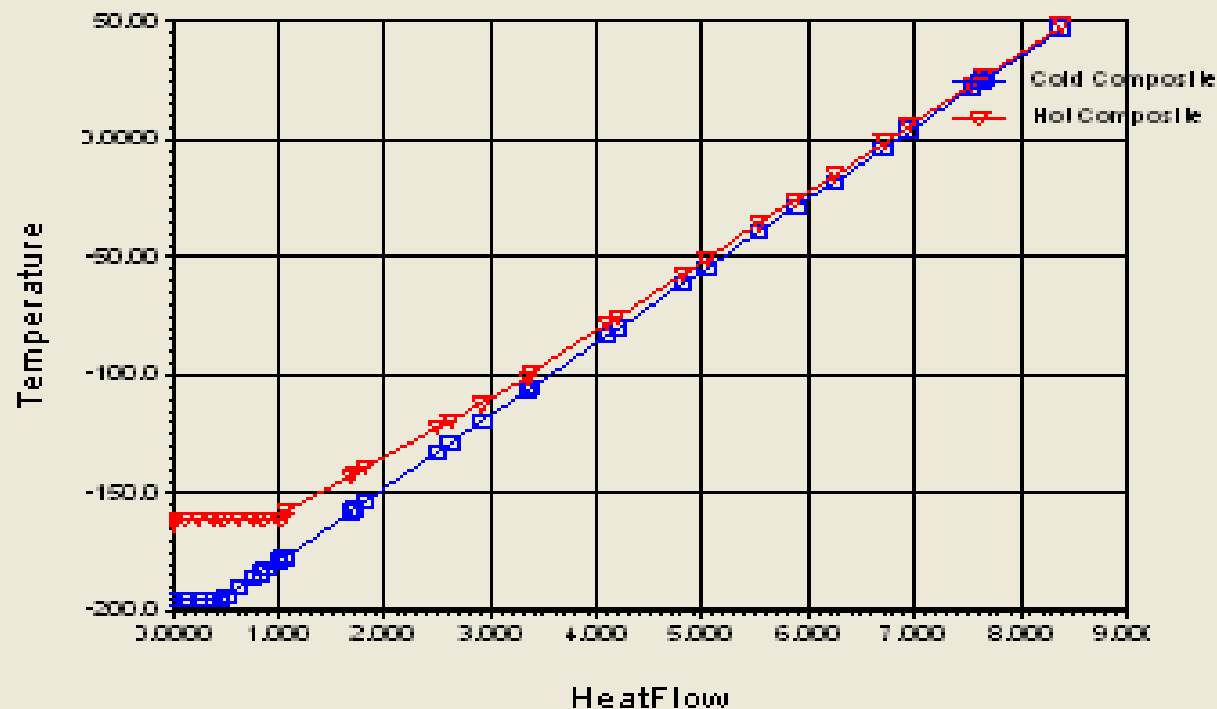
SMRLP consumes energy 1.36hp/lb LNG.
It is equal to \$0.67/mmbtu LNG
production cost.

LNG Process Flow Diagram



SINGLE MIXED REFRIGERATION LNG PROCESS
(SMRLP)

LNG Main Heat Exchanger Temperature Approach



LNG Technology

- Single Mixed Refrigeration Loop
- Simple Process - Can Be Installed Mobile Unit
- Easy Operation and Maintenance
- For Small and Mid Size LNG plant
- Low Equipment and Initial Cost

LNG Turnkey Cost

- Feed 2 mmscfd Natural Gas produce 11.5 mmpta.
- Major equipment cost USD 4.0 million

Direct project expresses

cost

SMRLP 11.53mmtpa

\$ USD million

Direct materials

equipment f.o.b. price, Cp	4.08
materials used for installation	2.90
direct labor	2.57
Total direct materials and labor	9.55

Indirect project cost

Freight, insurance, taxes	0.57
Construction overhead	1.80
contract engineering expresses	1.06
Total indirect project cost	3.43

bare module capital, Cbm 12.98

Contingency and fee

Contingency	1.96
fee	0.41
total contingency and fee	2.37
total module capital	15.34

Direct project expresses	cost
SMRLP 56mtpa	\$ USD million
Direct materials	
equipment f.o.b. price, Cp	0.71
materials used for installation	0.50
direct labor	0.45
Total direct materials and labor	1.66
Indirect project cost	
Freight, insurance, taxes	0.10
Construction overhead	0.31
contract engineering expresses	0.18
Total indirect project cost	0.60
bare module capital, Cbm	2.26
Contingency and fee	
Contingency	0.34
fee	0.07
total contingency and fee	0.41
total module capital	2.67

The background of the slide is a photograph of a vast blue ocean meeting a bright blue sky with wispy white clouds at the horizon. The text is centered in the upper half of the image.

For More License Information
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