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#1 AMMONIA PLANT

Capacity: The design capacity is 160 STPD (144 MTPD). However, the plant produced as much as 250 stpd (225 MTPD). Typical production figures follows:

1998	69296
1997	83750
1996	79066
1995	80531
1994	65572

Licensor Kellogg

Raw Material. Natural gas

Year Built: 1963

Year shut down: March 2001. The plant was mothballed properly ready for future startup and was put under nitrogen purge until end of 2007.

Utility consumption: Natural Gas: 46.94 MM Btu/ metric ton
Electricity: 66.3 kWh/ metric ton

Compressor: The plant has two (55% capacity each) Cooper Bessemer, Model JM-8 combined service reciprocating compressor each complete with direct coupled, model LSV-T2-SG-V gas engine, and accessories. The gas engine can operate either with natural gas or synthesis gas. The gas engines are 3434 HP a 327 RPM, 12 cylinder, 15.5" bore and 22 stroke. Fuel gas intake size is 3.

Natural gas is boosted from 186 psia at 105°F to 282 psia discharge pressure at 156°F.

Air is compressed in 3 stages from 12.6 psia to 253 psia.

Synthesis gas is compressed in 4 stages from 420 psia to 6000 psia

Ammonia is compressed from 31.5 psia to 230 psia.

Compressor is inspected and repaired on a two year cycle and is in excellent condition.

The gas engines are large and will be expensive to ship. An electric motor or steam turbine might be considered to replace the engines. The #2 ammonia plant, sister plant to this ammonia plant, uses GE electric motor.

Control system: The plant used an Analog control system. This system is usable but is old. It may be difficult to find parts to repair the system. A new DCS control system is recommended.

All technical documents, inspection reports, maintenance records are available. Spare Parts are also available.