

# 1,000 STPSD AMMONIA PLANT EQUIPMENT LIST

## FURNACES

<u>ITEM #</u>	<u>DESCRIPTION</u>	<u>AREA</u>
101B	Primary Reformer	10
102B	Start-Up Heater	1
103B	Guard Chamber Preheater	10

## EXCHANGERS

<u>ITEM #</u>	<u>DESCRIPTION</u>	<u>AREA</u>
101CA	Primary Waste Heat Boiler	10
101CB	Primary Waste Heat Boiler	10
102C	Secondary Waste Heat Boiler	10
103C	Primary Shift Effluent WH Boiler	8
104C	Methanator Feed Heater	8
1105C	CO <sub>2</sub> Stripper Gas Reboiler	7
1107C	Lean Catacarb BFW Exchanger	7
1110C	CO <sub>2</sub> Stripper Condenser	7
1111C	CO <sub>2</sub> Stripper Steam Reboiler	7
1113C	CO <sub>2</sub> Stripper Condensate Reboiler	7
114C	Methanator/Effluent BFW Heater	4
116C	SYN Gas Comp. Interstage Cooler	3
117C	Feed & Recycle First Stage Chiller	2
118C	Feed & Recycle 2 <sup>nd</sup> Stage Chiller	2
119C	Feed & Recycle Third Stage Chiller	2
120C	Ammonia Conv. Feed/Feed Recycle Exchanger	1
121C	Ammonia Conv. Feed/Effluent Exchanger	1
122C	Ammonia Conv. Interchange	1
123C	Ammonia Conv. BFW Exchanger	1
124C	SYN Gas Compressor Aftercooler	2
125C	Purge Gas Chiller	2
129C	SYN Gas Compressor Interstage Chiller	3
136C	SYN Gas Methanator Feed Exchanger	3
172C	LTS Start-Up Cooler	10
115C	Methanator Effluent Cooler	4
126C	Flash Gas Chiller	2
127CA	Refrigerant Condenser	3
127CB	Refrigerant Condenser	3
128C	Refrigerant Compressor Intercooler	3

## REACTORS & CONVERTERS

<u>ITEM #</u>	<u>DESCRIPTION</u>	<u>AREA</u>
103D	Secondary Reformer	10
104D	Shift Converter	6
105D	Synthesis Converter	1
106D	Methanator	4
107D	Transfer Line	10
108D	Zinc Oxide Guard Chamber	10

## TOWERS

<u>ITEM #</u>	<u>DESCRIPTION</u>	<u>AREA</u>
1101E	CO <sub>2</sub> Absorber	6
1102E	CO <sub>2</sub> Stripper	7
1103E	Process Condensate Stripper	7

## DRUMS & TANKS

<u>ITEM #</u>	<u>DESCRIPTION</u>	<u>AREA</u>
102F	Raw Gas Separator	5
104F	SYN Gas Compressor Suction Drum	3
105F	SYN Gas Comp 1 <sup>st</sup> Stage Separator	3
107F	Primary Ammonia Separator	2
108F	Purge Separator	2
109F	Refrigerant Receiver	2
116F	Natural Gas Drum	3
121F	Fuel Gas Knockout Drum	11
141F	Instrument Air Receiver	3
156F	Blow Down Drum	10
1103F	CO <sub>2</sub> Stripper Reflux Drum	6
1113F	CO <sub>2</sub> Absorber K.O. Drum	6
1103FA	CO <sub>2</sub> Stripper Reflux Drum	6
1115F	Catacarb Sump	5
1117F	Carbon Filter	5
1118F	Carbon Filter	6
101F	Steam Drum	10
106F	Secondary Ammonia Separator	1
110F	First Stage Refrigerant Flash Drum	9
111F	2 <sup>nd</sup> Stage Refrigerant Flash Drum	9
112F	Third Stage Refrigerant Flash Drum	9
1114F	Catacarb Storage Tank	5
2001F	Demineralized Water Storage Tank	32
2001FA	Demineralized Water Storage Tank	32

# 1,000 STPSD AMMONIA PLANT EQUIPMENT LIST continued

## BUILDINGS

<u>ITEM #</u>	<u>DESCRIPTION</u>	<u>AREA</u>
102K	Compressor Building	3

## PUMPS & COMPRESSORS

<u>ITEM #</u>	<u>DESCRIPTION</u>	<u>AREA</u>
101J	Air Compressor	3
101JC	Surface Condenser	3
103J	Syn Gas Compressorr	3
104J	High Pressure BFW Pump	11
104JA	Standby HP BFW Pump	11
105J	Refrigerant Compressor	3
106J	Quench Pump	9
1107JA	Semi-Lean Catacarb Circ SB Pump	9
1108J	CO <sub>2</sub> Stripper Reflux Pump	9
1108JA	CO <sub>2</sub> Stripper Reflux Standby Pump	9
109JA	Cold Ammonia Pump	9
109JA	Cold Ammonia Standby Pump	9
1110JA	Lean Catacarb Circulating Pump	9
1110JB	Lean Catacarb Circulating Pump	9
1110JC	Lean Catacarb Circulating Pump	9
1111J	Catacarb Wake-Up Pump	9
112J	Condensate Pump (101JC)	3
112JA	Condensate Standby Pump	3
1114J	Catacarb Sump Pump	5
120J	Ammonia Injection Pump	2
121J	Hot Ammonia Product Pump	2
121JA	Hot Ammonia Standby Pump	2
2007J	Desuperheater Water Pump	11
2202JC	Surface Condenser	33
129JC	Air Compressor Interstage Cooler	3
130JC	Air Compressor Interstage Cooler	3
131JC	Air Compressor Interstage Cooler	3
2201JA	Cooling Water Pump	34
2201JB	Cooling Water Pump	34
2201JC	Cooling Water Standby Pump	34
2202F	Plant Air Receiver	3