



INTEGRATED FLOW SOLUTIONS

ISO 9001:2008

BUREAU VERITAS
Certification

N° US 003194-1



Ammonia Unloading, Storage, Distribution & Vaporization System

Integrated Flow Solutions Ammonia Unloading, Storage, Distribution & Vaporization System is designed to provide ammonia (anhydrous or aqueous) reactant to a Selective Catalytic Reduction (SCR) unit for removal of NO_x from flue gas. Ammonia is delivered by truck or railcar and unloaded into storage tanks. The ammonia is forwarded to the Ammonia Flow Control Unit (AFCU) which generates ammonia gas for injection into the flue gas upstream of the SCR. IFS provides the complete system.



Industries



Benefits:

- Single Source Accountability
- Pre-Packaged Modular Design Costs Less than component based site built which reduces overall project cost
- Minimizes field erection time – shorter overall project delivery schedule
- Complete system function testing prior to shipment
- 24/7 Customer service

Industry Standards

- Vessels code stamped ASME Section VIII & National Board Registered
- Piping designed to ANSI B31.1/ANSI B31.3
- Pipe fabrication to ASME Section IX
- Structural Steel Assembly Designed to AWS D1.1
- Complete system designed to API RP 550 & K61.1

Standard Features:

- IntegraSafe Unloading Station
 - Local indication of:
 - Tank level
 - Tank pressure
 - Flow indication
 - Local manual/automated valve operation

Standard Features (cont.):

- Storage System Module
 - Vessel storage up to 65,000 gallons
 - Single & Double wall carbon steel vessels
- Distribution System Module (Anhydrous)
 - Integraheat™ Electric Vaporizer ASME Code Stamped (Locally Mounted)
 - Full Thyristor (SCR) Control Panel with Locally Mounted Redundant Safety Shutdown System per NEC & NFPA
- Distribution System Module (Aqueous)
 - Heavy Duty Centrifugal, Gear, Magnetic Drive, or Canned Forwarding Pumps
 - Locally Mounted Control Panel per NEC
- Vaporization System Module (Cold AFCU)
 - Integraheat Electric Process Air Heater
 - Steam Heat Exchanger
- Vaporization System Module (Hot AFCU)
 - Hot Flue Gas
- Complete Factory function Test

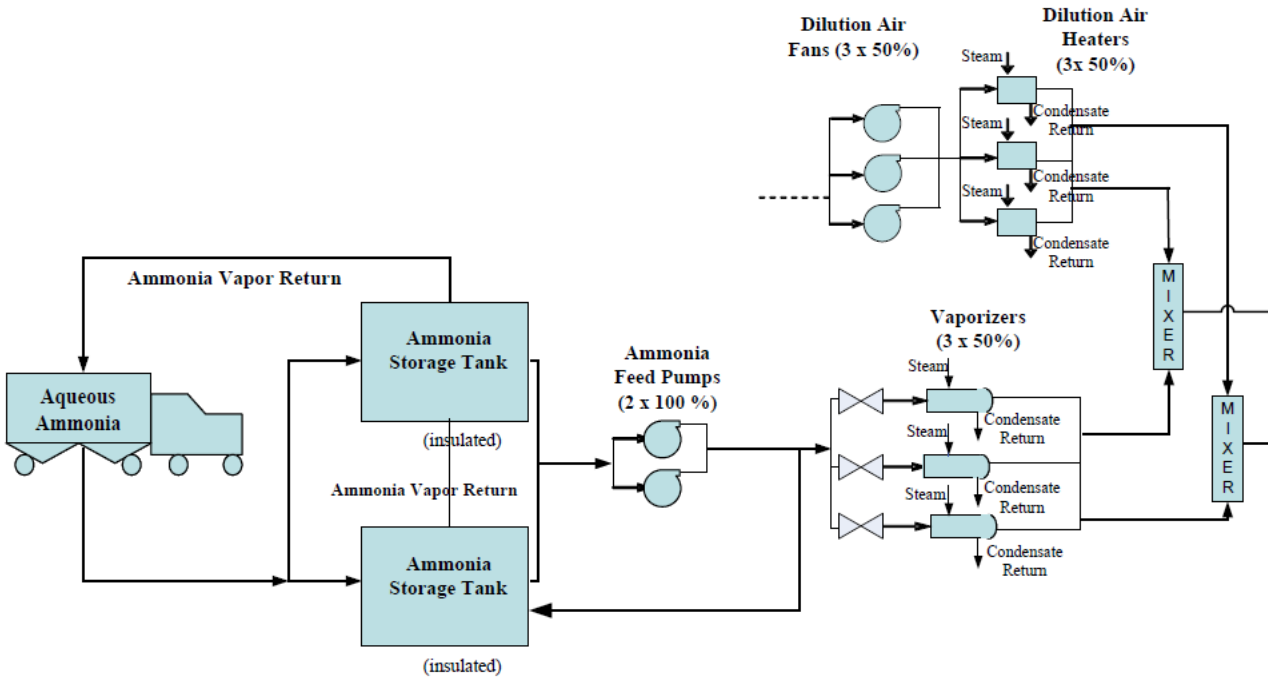
Optional Features:

- Class 1, Div 2 Hazardous Locations
- Compliance with Plant/Engineering Specifications

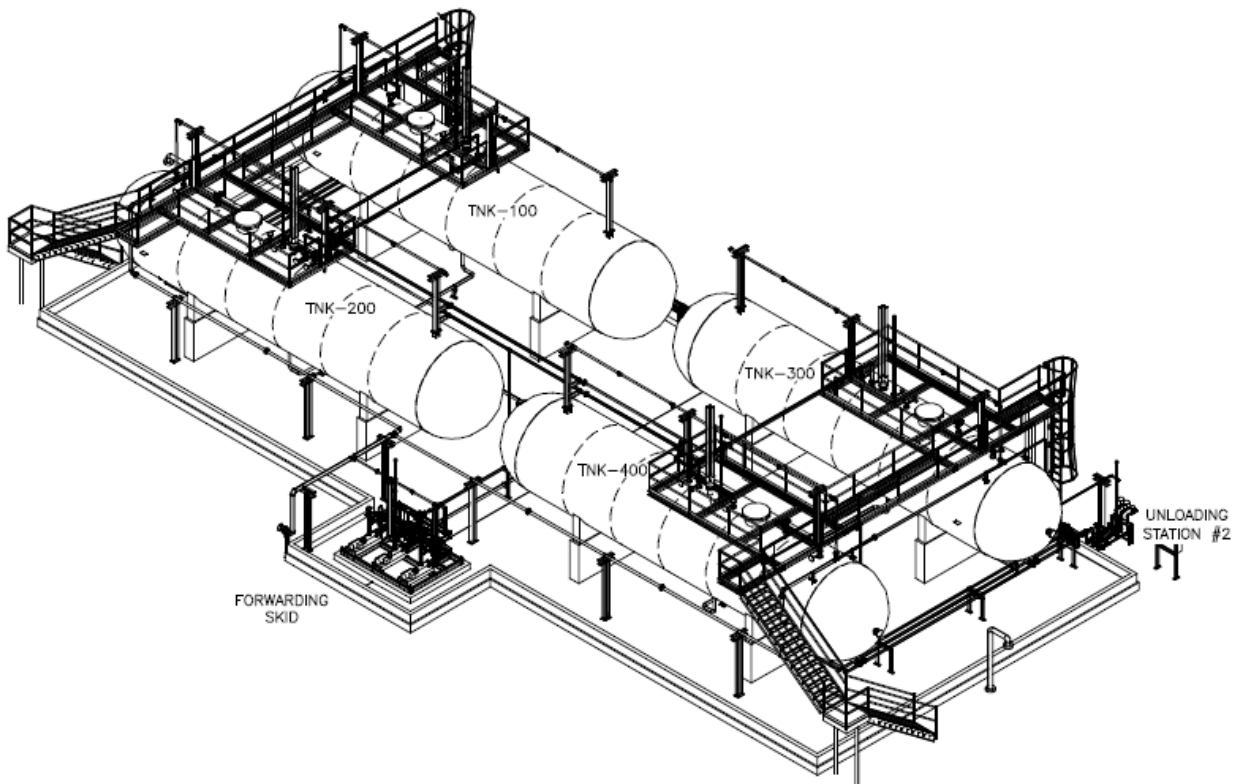
Additional Services:

- “Aspen Plus” Process Simulation Software used to guarantee process conditions
- Installation / Training / Start – Up Supervision
- Extended warranty
- Nationwide Service Network

Ammonia Unloading, Storage, Distribution & Vaporization System



TYPICAL SCHEMATIC FOR AMMONIA UNLOADING, STORAGE, DISTRIBUTION & VAPORIZATION SYSTEM



TYPICAL 3D MODEL OF AN AMMONIA UNLOADING, STORAGE, DISTRIBUTION & VAPORIZATION SYSTEM