CHANGES, DEVELOPMENTS & INNOVATIONS IN THE CNG MARKETPLACE

BY

ANGI ENERGY SYSTEMS

Presented by:
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Who is ANGI?

> Designer and Manufacturer of Systems for CNG Vehicle Fueling, Tube Trailer Transport and RNG.

> Over 30+ Years of CNG Experience.

> Natural Gas Fueling Equipment is Our Core Business.

> North America’s Leading Supplier of CNG Refueling Equipment.

> Long Standing Reputation as a Leader in the CNG Industry.

> CNG Equipment Innovator.
What are the Major Changes?

> Vehicle Market Now Primarily Medium and Heavy Duty.
> Faster and Fuller Fills Required.
> Station Flow Rates Are Higher.
> Use of Mobile Pipelines Increasing.
> Use of RNG Increasing.
> Increased Use of Remote Station Monitoring.
> Increased Use of Integrated Skids.
Why Faster & Fuller Fills?

> CNG Fueling Has Typically Taken Longer Than Liquid Fuels.
> Try To Match Retail & Commercial Liquid Fill Rates.
> Reduce Onboard Vehicle Storage Volume.
> Increase Vehicle Range.
> Reduce Number of Fueling Events.
How Do We Achieve Faster Fills?

> High Flow Compression and Station Equipment.
> Pressure Drop/Flow Analysis of Station Design.
> Provide a Refueling Strategy Based on Fueling Needs.
> Ensure First In – First Out Fueling Strategies.
How Do We Achieve Fuller Fills?

> Change Code To Allow More Cylinder Overfill Capability.

> Provide Steady, Reliable Pressure to Dispenser.

> Improve Fueling Algorithms.

> Reduce Hydraulic Losses In The Fueling Hose & Vehicle.

> Introduce Cool Gas Into The Onboard Cylinders.

> Utilize Onboard Vehicle Telemetry.
Tube Trailers

> Use Increasing Due To Pipeline Limitations, Stranded Gas Wells, Utility Peaking and RNG.

> Typically Requires High Flow Equipment.

> Chillers Common To Maximize Trailer Gas Capacity.

> Decant Panels Utilized to Reduce Trailer Pressure To Required Application Pressure.

> May Require Additional Compressors To Extract More Gas From Trailer At High Pressure Gas Lines.
Biogas/RNG

> ANGI Works With Most Gas Cleanup System Manufacturers.
> Booster Compressors Used To Put Gas Into HP Pipelines.
> Tube Trailer Required for Remote Locations.
> Compressors With Variable Frequency Drives Used To Match RNG Output.
> Often Requires Custom Solutions.
> ANGI Has Dedicated Staff Specifically For This Market.
Remote Communication

> ANGI Has Had Remote Monitoring Capability For Several Years.
> ANGI Will Also Host Remote Monitoring On Our Server.
> ANGI Developed a New Simpler SCADA System.
> All Above Allow Real Time Monitoring and Annunciation.
Integrated Skids

> Integrated Skids Can Incorporate Compressor(s), Dryer, Valve Panels, Storage, Defueling and Dispensing.

> Increasing Use With Fleet Customers to Simplify Installations.

> Allows Easy Re-Location If Required
New Product Development

- Gilbarco Encore Dispenser With CRIND (Card Reader In Dispenser).
- New Design Time Fill Posts.
- Heated High Flow Vehicle Defueling Panel.
- NG75 and NG100 Compressor Development.
- Dispenser With Integrated ANGI Patented JT (Joule-Thomson) Cooling.
- RFID Dispenser Communication.
Questions???
THANK YOU

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