



Logistics Management



Dedicated Contract Carriage



Warehouse Management



Bulk Transportation



Custom-Built Transportation



Carrier Management



Kitting and Subassembly



Brokerage Services

RUAN

Ruan's Class-8 CNG and RNG Experience

Dairy Digester Subgroup #2
Meeting Sacramento, CA
09/07/17

Ruan Transport Corporation

Steve Larsen

Ruan Introduction

- + Founded 1932 (John Ruan) HQ Des Moines, IA
- + Dedicated Contract Transportation & Supply Chain Solutions
- + National footprint with 270+ Operation Centers
- + Primary industries: Retail, Grocery, Industrial Gases, Dairy, Manufacturing, Food Processing, Chemicals & Metals
- + 3,700+ Class 8 tractors / 8,400+ trailers / 5,100 employees
- + #40 2017 Industry ranking by Transport Topics “Top 100”
- + Sustainability
 - 3x Excellence Award recipient – EPA Smartway Partner
 - Member of DOE National Clean Fleets Partnership
 - Participates in CDP (Carbon Disclosure Project)
 - Heavy Duty Trucking “Top 50 Green Fleets” award winner
 - Named annually to Food Logistics’ “Top Green Provider” list
 - Named annually to Inbound Logistics’ “Green Supply Chain Partner” list



Compressed Natural Gas Fleet (CNG and RNG)

- + Over 82 million miles run on CNG equipment to date
- + Fleet at a glance
 - 84 CNG 12L tractors (Includes 17 Texas NGV (TERP) Program)
 - 41 RNG 12L tractors (Fair Oaks Farms)
- + Fleet domiciles: IA, IN, MN, TX, WI



Renewable CNG (RNG) – Fair Oaks Farms

- + Anaerobic digestion – 32,000 dairy cows
 - ampCNG produces 2 million DGE/yr of RCNG from dairy cow waste
- + Light-weight specs optimize bulk payloads (51,890 lbs. per load)
- + Operation consists of 140 drivers, 41 tractors, & 85 tankers
- + 333,000 gallons of milk moved daily; 122 million gallons of milk per year
- + Approx. 50 million miles since 2011
- + RNG fueling displaces 1.8 million gallons of diesel annually
- + Driver satisfaction high
- + Fuel economy and vehicle uptime meeting expectations
- + Fleet life extended with engine work and cab refresh



CNG vs. Diesel Decision Making Process – ROI Model

+ Generic assumptions (# of trucks, miles/yr, contract term)

+ Fuel Assumptions

- MPG
- Price per gallon
- DEF usage rate and cost (diesel only)
- Fuel credits (LCFS, RIN, VETC, Excise tax)

+ Equipment

- Costs
- Grants (if applicable)
- Residual assumptions (calculate depreciation)
- Interest
- Maintenance costs per mile

+ Other

- Personal property tax
- Gap insurance (if applicable)
- Customer benefits from stable fuel prices?

+ Calculation of total cost of ownership and resulting cost per mile or per cwt in dairy scenario

CNG – Regulatory, Grants & Incentives

+ Regulatory

- 12 States have zero IFTA rates on CNG fuel, and 5 other States have \$0.10 or less IFTA
- Federal 2,000 lb. CNG weight exemption is in place. State legislation activities are pending.
 - 18 states have enacted laws already (Not CA – died in committee)
- Tank inspection (every 36,000 miles)

+ Grants & Incentives

- Federal VETC \$0.50/GGE credit (expired) – *Tax Extender package possible late 2017?*
- Many State grant programs available
- Fleet considerations for incentives
 - No scrappage requirement
 - Minimize complicated reporting/compliance requirements
 - Don't overly restrict travel options (i.e. CO "Front Range" ~75 mile range)
 - Reasonable model year replacement
 - Allow IRP registration (i.e. not requiring State base plates)
 - Dollars per vehicle need to be as aggressive as you can afford.

CNG/RNG Station Considerations – Fleet

+ Ensure station specs are adequate for fleet operations

- Class 8 accessible
 - Accessible location (controlled intersections, road type/condition, proximity to major interstates)
 - Plenty of turning space for ingress/egress
- Fleet cards accepted (i.e. Comdata)
 - Alphanumeric keypad (similar to National truck stop chains)
- Redundant compressors
 - Consider offering uptime guarantees
- Fill rates (should be ~8 to 14 GGE per minute)
 - Balance of site storage vs. compression
- Card lock vs full service truck stop
- Customer service phones available for drivers
- Public vs. “behind the fence”
- Multiple pumps/lanes

CNG – Ruan Experience

+ Equipment

- Primarily KW and Volvo, with couple of FRGT vehicles
- Work with traditional dealership network for majority of non-Fair Oaks fleet
- Various fuel system/tank suppliers
- Vehicle cost
 - Significant upcharge vs. diesel
 - Largest contributor is tank selection
- Don't over-spec, but need to be comfortable with operating range/weight

+ Maintenance

- Fair Oaks, IN vehicles have an average of 811K miles, with some reaching 1M miles
- Shorter maintenance intervals (oil changes)
- Spark plugs (n/a on HPDI diesel engines)
- Tank inspections every 36,000 miles
- Overall maintenance within one or two cents/mile of diesel (including inspection costs)

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Questions