

BLUE ROADS

SOLUTIONS

Business Overview



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Blue Roads Solutions

Overview

Blue Roads provides customized liquified natural gas (LNG) fueling systems to end users within the construction, mining, and power generation sectors across the United States.

- Industry leader for industrial drying and remote power generation with customers across the U.S.
- Systems small enough for twin natural gas generators or large enough to fuel generators providing several megawatts of power and dual 120 MMBtu industrial burners
 - Mobile or stationary LNG supply systems
 - Horizontal or vertical cryogenic storage tanks of various sizes to fit any operational footprint
- Turn-key systems that cover the complete value chain of fuel supply and management
 - Customized systems designed to meet the need of individual projects
 - Remote monitoring of fuel inventory to ensure uninterrupted fuel supply
 - Automatic refueling entirely managed by Blue Roads logistics team
 - Telemetry based system controls with on-site service and maintenance
 - Custom reporting for performance analytics



Blue Roads' Solution

Blue Roads procures, installs, owns, operates, and maintains mobile, relocatable, and stationary LNG fuel storage tanks and vaporization systems allowing its customers to use natural gas as a fuel for industrial drying and power generation applications.

- LNG is non-toxic, non-corrosive, odorless, and less dense than water. Through a process called liquefaction, LNG is derived from cooling gas to negative 260 degrees Fahrenheit – *Blue Roads sources LNG from its nationwide supply network of liquefaction sources across the United States*
- The liquefaction process condenses gas volume 600 times providing for easier transportation to areas where natural gas pipelines do not exist – *Blue Roads handles 100% of LNG management, sourcing, logistics, scheduling, and transport from supply sources to customer sites*
- LNG fuel storage tanks and vaporization equipment (LNG Systems) provides for the regassification of LNG to be used in industrial applications – *Blue Roads purchases, installs, owns, operates, and maintains LNG systems at customer sites to enable the use of natural gas*
- Advanced telemetry and remote monitoring equipment is installed on tank and vaporization equipment – *Blue Roads provides the latest technology for remote monitoring equipment used for up to the minute fuel and inventory management ensuring our customers have a consistent and uninterrupted supply of natural gas*



Blue Roads' Advantage for Customers

By providing LNG as a cost effective fuel displacing RFO, propane, and/or diesel, Blue Roads offers its clients a safe, efficient, reliable and cost effective alternative

- Clean, reliable energy generally at a discount to next best fuel option
- Reduced maintenance cost, downtime, and extended plant and equipment life
- Consistent, predictable, and transparent pricing
- Telemetry and remote monitoring of LNG system and combustion analytics
- Redundant LNG supply sources to ensure uninterrupted fuel supply
- Local field technicians for troubleshooting and on-site technical support
- Little to no capital required from the customer



Blue Roads Remote Power Partnership

Mesa Natural Gas Solutions is a sister company of Blue Roads that provides natural gas fueled generator sets which are paired with Blue Roads LNG systems.

- Projects have ranged from twin 350kW generators powering salt water disposal well pumps to eighteen 350kW generators used for all power needs at a large frac sand mine
- Generator sizes from 70kW to 350kW
- 95% runtime guarantee
- Greater than 99% historical runtime
- Most responsive technicians in the industry
- Telemetry that provides real time information to customers
- Units manufactured by Mesa in the USA



Customer Partnership Benefits

Overview

Blue Roads can partner with its customers to provide cost competitive, environmentally friendly, and reliable natural gas to both asphalt plants and aggregate facilities.

- Blue Roads can assist customers by providing a fuel management solution that is cost competitive with waste oil but that could dramatically improve efficiency and lower operating costs
- Blue Roads views this as a true business partnership and can be valuable to plant operations by:
 - Providing the best fuel available
 - Offering analytics and technical support on fuel efficiency
 - Completing burner tuning and stack testing annually, or more often as needed
 - Working to have plants recognized as environmentally friendly and products certified green
- Plant operators will be supported by Blue Roads and freed up to focus on other aspects of plant management which should increase productivity and minimize downtime



Maximizing Combustion Efficiency

Blue Roads views any installation as a business partnership that will be focused on system uptime, fuel management, and maximizing fuel combustion efficiency

- System uptime is of utmost importance to Blue Roads and is managed 24/7 by a remote monitoring and control system
- Onsite technician support is also available and can be deployed with short notice any time a problem arises
- Fuel inventory will be managed by Blue Roads logistics personnel through regular coordination with plant operators on anticipated production volumes
- Blue Roads can provide annual burner tuning and stack testing along with constant monitoring of hot oil heater efficiency
- Reporting can be provided on a weekly or monthly basis along with Blue Roads recommendations for improved performance



Fuel Consumption Reporting & Analytics

Weekly or monthly fuel consumption and delivery reporting comes along with recommendations for needed course corrections in order to explain any abnormalities or fine tune inefficiencies

Blue Roads Solutions, LLC

Monthly Consumption Report - March 2019

| Date | Day | LNG Inventory | | | | Tons Produced | Gallons for Hot Oil Heater | Gallons for Production | Gallons Per Ton | MCF for Hot Oil Heater | MCF for Production | MCF per Ton |
|---------------------|-----------|---------------|---------------|-----------------|--------------|---------------|----------------------------|------------------------|-----------------|------------------------|--------------------|-------------|
| | | Beginning | Refuel | Usage | Ending | | | | | | | |
| 03/01/19 | Friday | 12,000 | - | (2,600) | 9,400 | 1,100 | 275 | 2,325 | 2.1 | 22 | 185 | 0.17 |
| 03/02/19 | Saturday | 9,400 | - | (275) | 9,125 | - | 275 | - | - | 22 | - | - |
| 03/03/19 | Sunday | 9,125 | - | (275) | 8,850 | - | 275 | - | - | 22 | - | - |
| 03/04/19 | Monday | 8,850 | - | (2,600) | 6,250 | 1,100 | 275 | 2,325 | 2.1 | 22 | 185 | 0.17 |
| 03/05/19 | Tuesday | 6,250 | 10,000 | (2,600) | 13,650 | 1,100 | 275 | 2,325 | 2.1 | 22 | 185 | 0.17 |
| 03/06/19 | Wednesday | 13,650 | - | (2,600) | 11,050 | 1,100 | 275 | 2,325 | 2.1 | 22 | 185 | 0.17 |
| 03/07/19 | Thursday | 11,050 | - | (2,600) | 8,450 | 1,100 | 275 | 2,325 | 2.1 | 22 | 185 | 0.17 |
| 03/08/19 | Friday | 8,450 | - | (2,600) | 5,850 | 1,100 | 275 | 2,325 | 2.1 | 22 | 185 | 0.17 |
| 03/09/19 | Saturday | 5,850 | - | (275) | 5,575 | - | 275 | - | - | 22 | - | - |
| 03/10/19 | Sunday | 5,575 | - | (275) | 5,300 | - | 275 | - | - | 22 | - | - |
| 03/11/19 | Monday | 5,300 | 10,000 | (2,600) | 12,700 | 1,100 | 275 | 2,325 | 2.1 | 22 | 185 | 0.17 |
| 03/12/19 | Tuesday | 12,700 | - | (2,600) | 10,100 | 1,100 | 275 | 2,325 | 2.1 | 22 | 185 | 0.17 |
| 03/13/19 | Wednesday | 10,100 | - | (2,600) | 7,500 | 1,100 | 275 | 2,325 | 2.1 | 22 | 185 | 0.17 |
| 03/14/19 | Thursday | 7,500 | - | (2,600) | 4,900 | 1,100 | 275 | 2,325 | 2.1 | 22 | 185 | 0.17 |
| 03/15/19 | Friday | 4,900 | 10,000 | (2,600) | 12,300 | 1,100 | 275 | 2,325 | 2.1 | 22 | 185 | 0.17 |
| 03/16/19 | Saturday | 12,300 | - | (275) | 12,025 | - | 275 | - | - | 22 | - | - |
| 03/17/19 | Sunday | 12,025 | - | (275) | 11,750 | - | 275 | - | - | 22 | - | - |
| 03/18/19 | Monday | 11,750 | - | (2,600) | 9,150 | 1,100 | 275 | 2,325 | 2.1 | 22 | 185 | 0.17 |
| 03/19/19 | Tuesday | 9,150 | - | (2,600) | 6,550 | 1,100 | 275 | 2,325 | 2.1 | 22 | 185 | 0.17 |
| 03/20/19 | Wednesday | 6,550 | - | (2,600) | 3,950 | 1,100 | 275 | 2,325 | 2.1 | 22 | 185 | 0.17 |
| 03/21/19 | Thursday | 3,950 | 10,000 | (2,600) | 11,350 | 1,100 | 275 | 2,325 | 2.1 | 22 | 185 | 0.17 |
| 03/22/19 | Friday | 11,350 | - | (2,600) | 8,750 | 1,100 | 275 | 2,325 | 2.1 | 22 | 185 | 0.17 |
| 03/23/19 | Saturday | 8,750 | - | (275) | 8,475 | - | 275 | - | - | 22 | - | - |
| 03/24/19 | Sunday | 8,475 | - | (275) | 8,200 | - | 275 | - | - | 22 | - | - |
| 03/25/19 | Monday | 8,200 | - | (2,600) | 5,600 | 1,100 | 275 | 2,325 | 2.1 | 22 | 185 | 0.17 |
| 03/26/19 | Tuesday | 5,600 | - | (2,600) | 3,000 | 1,100 | 275 | 2,325 | 2.1 | 22 | 185 | 0.17 |
| 03/27/19 | Wednesday | 3,000 | 10,000 | (2,600) | 10,400 | 1,100 | 275 | 2,325 | 2.1 | 22 | 185 | 0.17 |
| 03/28/19 | Thursday | 10,400 | - | (2,600) | 7,800 | 1,100 | 275 | 2,325 | 2.1 | 22 | 185 | 0.17 |
| 03/29/19 | Friday | 7,800 | - | (2,600) | 5,200 | 1,100 | 275 | 2,325 | 2.1 | 22 | 185 | 0.17 |
| 03/30/19 | Saturday | 5,200 | - | (275) | 4,925 | - | 275 | - | - | 22 | - | - |
| 03/31/19 | Sunday | 4,925 | - | (275) | 4,650 | - | 275 | - | - | 22 | - | - |
| March Totals | | 12,000 | 50,000 | (57,350) | 4,650 | 23,100 | 8,525 | 48,825 | 2.1 | 679 | 3,891 | 0.17 |



Environmental Benefits

Blue Roads customers pride themselves on being environmentally conscious producers of asphalt pavement and is an innovator in using environmentally friendly, energy-saving technologies in every line of business. Blue Roads works with its customers in the following ways to further these environmentally friendly initiatives:

- **Emissions Reduction** – Utilization of natural gas at a single plant reduces NOx emissions by 53%, CO₂ by 2%, SOx by 94%, Lead by 96%, Mercury by 91% and Total Hazardous Air Pollutants by 47%.
- **Green Construction Certification** – Green Construction Certifications are being pushed by NAPA for producers and project owners and could lead to environmental credits.
- **Emerald Eco-Label** – If not already being used, Blue Roads can facilitate the introduction of this tool which can help improve operational efficiency. Tracking material inputs and energy use at the mix and plant level helps a company fine-tune its operations to improve production efficiency, saving money, and reducing potential environmental impacts.
- **Profitability** – Utilizing natural gas ensures 100% combustion of the cleanest fuel available. This reduces maintenance costs, eliminates downtime as a result of burner fuel, and extends asphalt plant equipment life. Adoption of LNG in place of waste oil will undoubtedly lead to future business opportunities as Green Construction becomes more prevalent.



Waste Oil vs. Natural Gas

Overview

Aside from being the preferred fuel of every asphalt plant operator, natural gas provides numerous advantages over waste oil including pricing stability, operating efficiencies, lower maintenance costs, and lower emissions.

- Waste oil comes from numerous sources like used crankcase oils or from other industrial processes and can vary in quality and performance dramatically load to load.
- In order to burn waste oil it needs to be filtered, drained of excess water, heated to the right viscosity, and most likely blended with diesel fuel.
- Known maintenance issues cause equipment to prematurely wear out and force plant staff to spend a lot of time checking, maintaining, or replacing various parts of the plant.
- The likelihood of plant downtime is significantly higher in plants burner waste oil. When this occurs the costs can be dramatic when accounting for lost sales, idle plant labor, additional transportation cost (if mix needs to be sourced from another facility), and idle construction crews. One day of plant downtime could easily cost in excess of \$100k.
- The environmental benefits are well documented through lower emissions, but the industry is becoming more environmentally conscious and green production practices could lead to additional business in the future or missing out on opportunities.

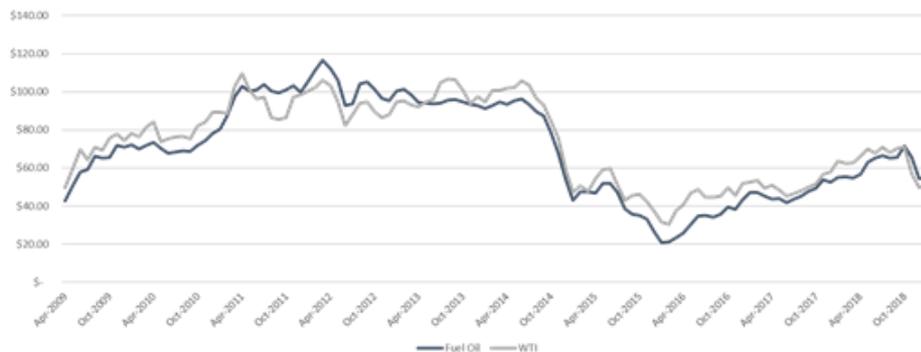


Natural Gas Pricing Stability

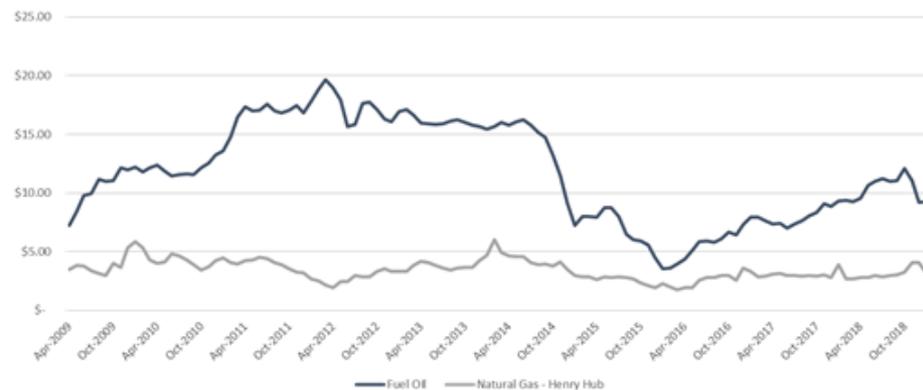
Commodity pricing for natural gas has remained stable over the last several years and is expected to remain low going forward while waste oil prices can have large fluctuations and generally track the price of oil which should continue to rise from current levels

- Waste oil pricing closely tracks the cost of crude oil which should increase with a recent announcement of OPEC supply cuts. During Q1 2019 the WTI price went up by 33% which should begin impacting waste oil prices in Q2. During this same time period Henry Hub natural gas prices decreased 14%.
- Dry natural gas production is expected to reach 91.0 billion cubic feet per day in 2019 which is a 9% increase over 2018. EIA expects this level of production to remain consistent for the next several decades.

Fuel Oil vs. WTI (\$/bbl) Monthly Averages



Fuel Oil vs. Natural Gas (\$/MMBtu)



Hidden Costs of Waste Oil - Inefficiencies

At face value, waste oil can appear to be a low cost fuel for asphalt plants but there are numerous hidden maintenance costs and operating inefficiencies that should be accounted for when calculating a true fuel cost per ton

- **Plant Operators Prefer Natural Gas** – Immediate combustion and consistent heat content reduces the steps to get a plant up and running each day or maintain consistent mix temperatures throughout the day.
- **Waste Oil, Water, & Diesel** – There is typically 5% to 10% water content in a truckload of waste oil which leads several operators to blend high cost diesel into the tank for initial combustion.
- **Parasitic Load on the Hot Oil Heater** – There are inefficiencies and heat loss of 7,000 to 15,000 btus from maintaining temperature on the waste oil which is usually done through a loop from the hot oil heater.
- **Consistent Performance** – LNG converted to natural gas is typically a higher grade of fuel than fuel received from a natural gas pipeline and is always going to produce a minimum of 82,644 btus. Waste oil can vary between loads and actually delivers closer to 125,000 btus per gallon once taking into account factors listed above.
- **Low Viscosity Wastes Fuel** – If waste oil is not held at the appropriate temperature, unatomized fuel passes through the burner nozzle without igniting. This causes numerous maintenance issues but is also wasted fuel not being used in the production process.



Hidden Costs of Waste Oil - Maintenance

Additional maintenance and equipment replacement costs related to burning waste oil can cost an asphalt plant the equivalent of \$55,000 to \$85,000 each year (\$0.22 to \$0.34 per ton on a 250k ton per year plant).

- **Pumps and Fuel Filters** – The LNG system is entirely serviced and maintained by Blue Roads without the cost of maintaining pumps and changing fuel filters. Blue Roads estimates these costs at \$2,000 annually when taking into account parts and labor.
- **Burner Nozzle Deterioration** – Burner nozzles deteriorate quickly under the use of waste oil and, if properly maintained for maximum efficiency, should be replaced twice per year at an estimated cost of \$2,500 annually. If this is not being done the annual cost is significantly higher from a combination of operating inefficiency or plant downtime.
- **Premature Wear on Combustion Flights** – Unatomized waste oil sprays on combustion flights and ignites which causes premature wear and will lead to replacement every three to five years. The approximate cost to replace is \$15,000 when taking into account parts and labor which is an annual cost of \$3,000 to \$5,000.
- **Bag Life Expectancy** – Unatomized waste oil coats bags which creates a safety concern where the baghouse can catch on fire but also leads to recommended replacement of bags every three to five years at a cost of \$50,000. This equates to \$10,000 to \$17,000 annually.
- **Baghouse Life Expectancy** – Wear and tear on the baghouse will cause the need for premature replacement every ten to fifteen years at an estimated cost of \$600,000, or \$40,000 to \$60,000 annually.



Hidden Costs of Waste Oil - Downtime

Downtime can cost an additional \$60,000 to \$100,00 per day beyond known maintenance and equipment replacement costs.

- **Lost Sales** – If there is a delay in delivery due to plant downtime an asphalt customer could source product from a competing facility. If delays happen on more than one occasion the plant could risk losing the customer on future orders.
- **Additional Transport Costs** – Producers with multiple locations in a geographic area can usually source product from another plant but this usually results in additional transport costs from added mileage or rerouting drivers.
- **Idle Paving Crews** – It can be very costly if a plant goes down during an expected production run and paving crews are sitting idle. Depending on the location and size of the crew this could cost from \$10,000 to \$20,000 per day.
- **Idle Plant Labor** – In a perfect world, all plant employees will either be sent home or continue doing productive work when a plant goes down but this is rarely an efficient use of time. Some employees or plant operators may be working on fixing the issues or catching up on other tasks but time not spent on producing asphalt is costly and, depending on the size of the crew, can add up quickly.



Hidden Costs of Waste Oil - Emissions

The table below illustrates the substantial emissions reduction for a 225,000 ton per year asphalt plant. This fits well with the asphalt industries focus on sustainability and environmental stewardship.

EMISSION REDUCTION - WASTE OIL VS. LNG

| | |
|------------------------------|---------|
| Annual Tons of Asphalt Plant | 225,000 |
|------------------------------|---------|

| Aggregate Dryer (Burner) | | | | | |
|--------------------------|-------------------------|-------------|----------------------|---------------------|-------------------|
| Fuel Type | Pounds NOx/Ton Asphalt | % Reduction | Pounds NOx Produced | Pounds NOx Reduced | Tons NOx Reduced |
| Waste Oil | 0.055 | 53% | 12,375 | 6525 | 3.263 |
| LNG (Natural Gas) | 0.026 | | 5,850 | | |
| Fuel Type | Pounds SOx/Ton Asphalt | % Reduction | Pounds SOx Produced | Pounds SOx Reduced | Tons SOx Reduced |
| Waste Oil | 0.053 | 94% | 11,925 | 11160 | 5.580 |
| LNG (Natural Gas) | 0.003 | | 765 | | |
| Fuel Type | Pounds HAPs/Ton Asphalt | % Reduction | Pounds HAPs Produced | Pounds HAPs Reduced | Tons HAPs Reduced |
| Waste Oil | 0.010 | 47% | 2,250 | 1057.5 | 0.529 |
| LNG (Natural Gas) | 0.005 | | 1,193 | | |

TOTAL ANNUAL EMISSIONS REDUCED (POUNDS)* 18,743
 TOTAL ANNUAL EMISSIONS REDUCED (TONS)* 9.37

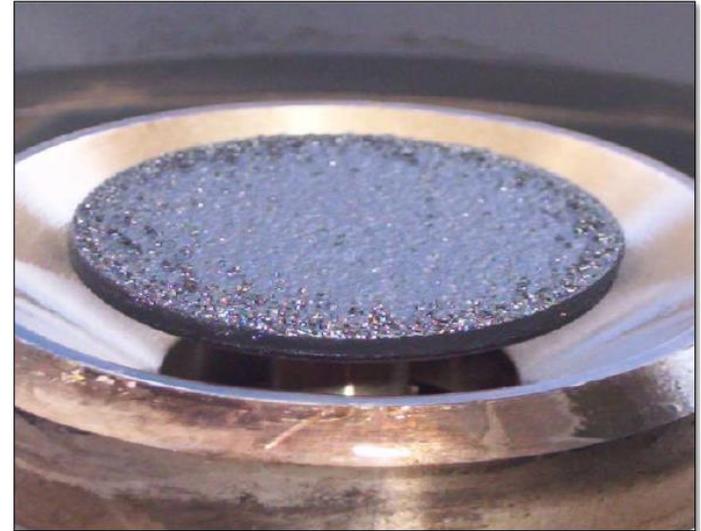
*Does not include emissions reduced from moving hot oil heater from diesel to LNG



Waste Oil Burner Nozzle Deterioration

Waste oil cause significant wear on burner nozzles that have to be cleaned or replaced as deterioration occurs.

- The top right nozzle is from an asphalt plant running natural gas with the lower right picture showing deterioration of a burner nozzle running waste oil.
- Contaminants in waste oil are typically cellulose fibers that can clog nozzle pores or metal shavings from engine components that wear away the nozzle.
- Some plants have to spend multiple hours each week cleaning the nozzle and replacing waste oil filters to ensure consistent production.



Waste Oil Fire Damage

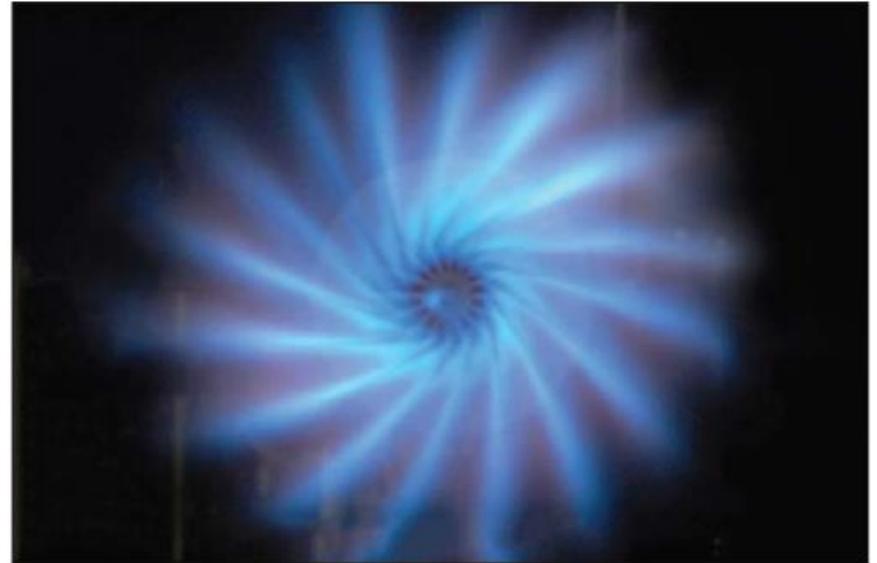
If the viscosity of waste oil is not properly managed through preheating or mixing with diesel fuel, unatomized particles of waste oil pass through the nozzle and land on combustion flights or coat the bags in a bag house.

- Once these particles combust there is significant damage to the combustion flights, as seen in the lower right picture.
- Once bags are coated in the bag house they have to be replaced at considerable cost or there is a risk of a baghouse fire as seen in the top right picture.



Waste Oil Burner Flame Patterns

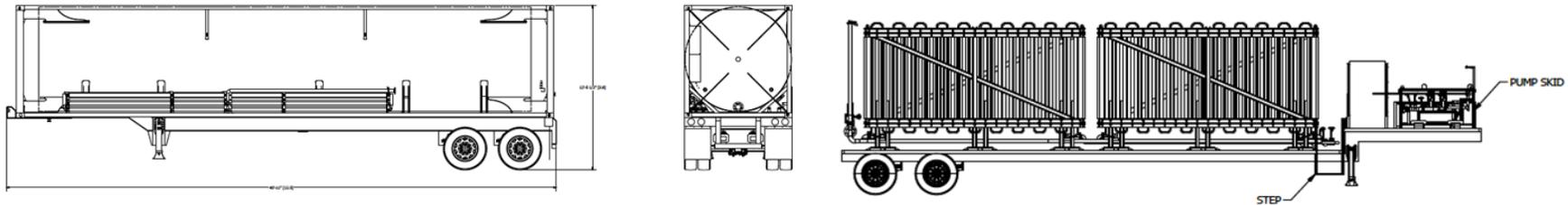
The blue, consistently patterned burner flame below is from natural gas and allows plant operators to more efficiently produce mix. The burner flame on the left is from waste oil.



Customized Fuel & Power Solutions

Multi-Configuration Equipment Platforms

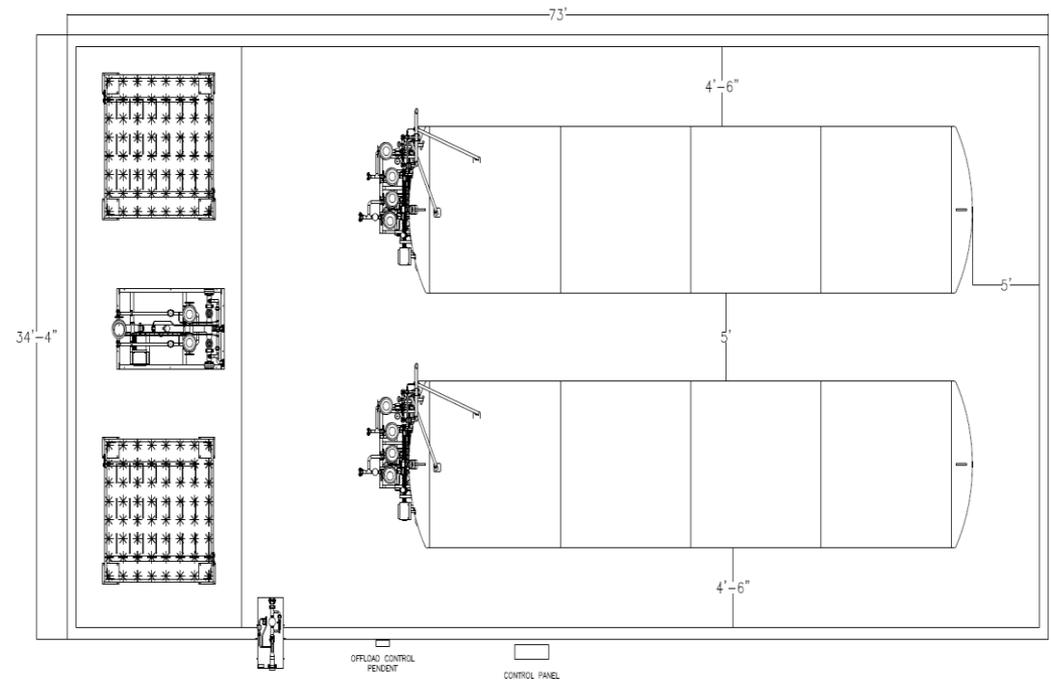
- Blue Roads provides LNG storage and vaporization equipment required to meet the specific nameplate production capacities of various industrial applications
- Blue Roads' vacuum jacketed, super-insulated cryogenic storage vessels and proprietary regasification/controls software allow its customers the ability to operate as if located directly on traditional natural gas pipeline infrastructure
- This on-demand natural gas solution gives operators peace of mind providing around-the-clock, reliable, consistent, and cost effective fuel source when and where it's needed
- Blue Roads offers custom equipment packages for temporary, relocatable and stationary facilities



Asphalt Plant Example

By providing LNG as a cost effective fuel displacing RFO, propane, and/or diesel, Blue Roads offers its clients a safe, efficient, reliable and cost effective alternative

- Cryogenic Vessels (1-2)
 - 10K to 15K gals each
 - Storage capacity volume dependent
- Ambient Vaporizers (2)
 - 75,000 SCFH
 - Total 150,000 SCFH



Mobile LNG Equipment



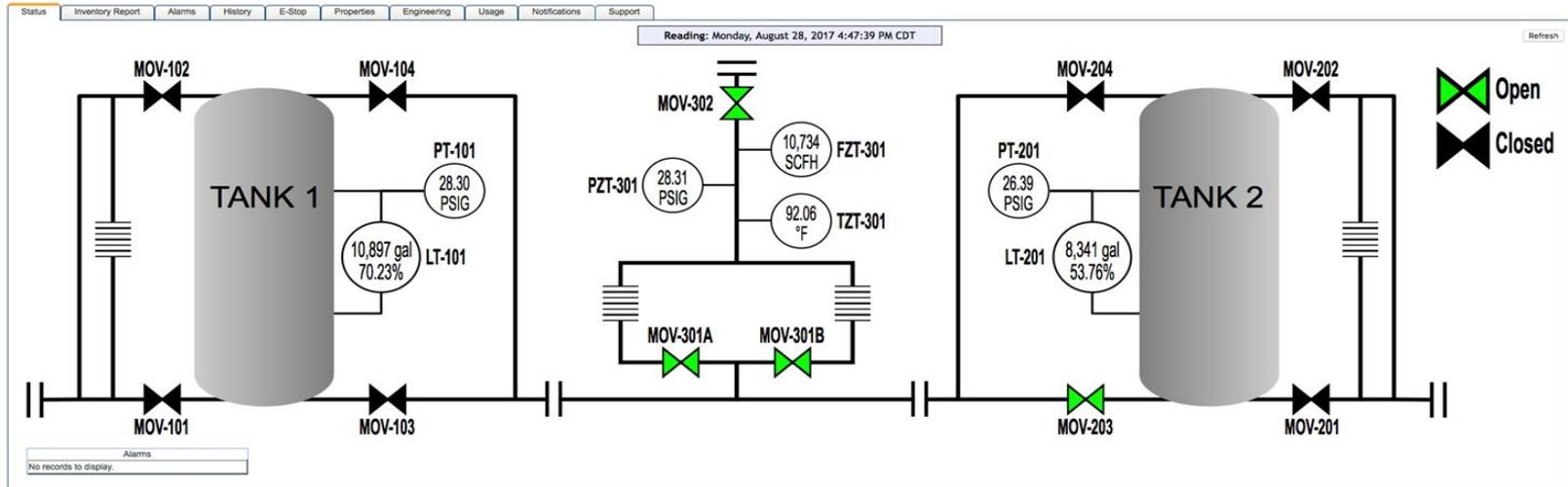
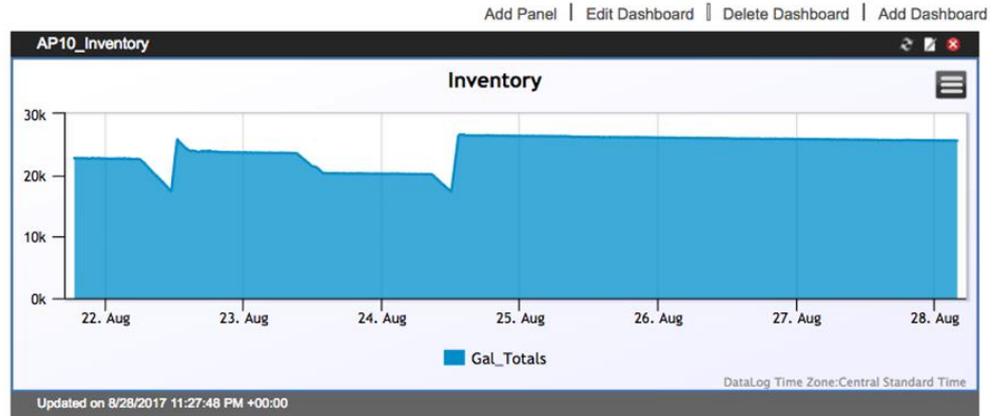
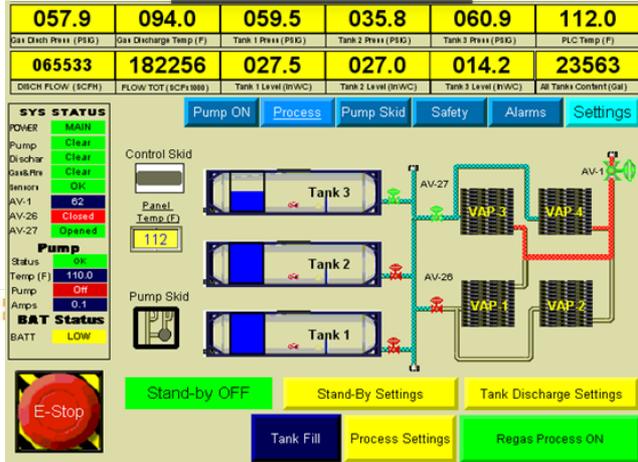
Relocatable LNG Equipment



Stationary LNG Equipment



Remote Monitoring & Controls



Mesa Natural Gas Solutions

WHAT SETS US APART?

We believe the “difference-makers” are our people and our technology. These two qualities combined set us apart. We care about what we do and want to earn your business with our industry leading service and technology.

We stand by our products, service, and team. We know the customer comes first and we carry that attitude no matter the economic climate. Listed below are the facts about Mesa Natural Gas Solutions. This is what sets us apart:

- We provide a 95% runtime guarantee using our generators and have over 99% historical runtime
- Mesa is the recipient of both the 2017 Department of Defense Freedom Award and the 2018 Department of Labor HIRE Vets Medallion Program Award for its treatment of veterans, with the majority of our field technicians being U.S. Military Veterans.
- Our natural gas generators have more than 10,000,000 run hours in world-wide applications.
- With decades of oil field service experience, we have learned what it takes to hire and train the best technicians in the industry.
- Mesa is a participant in OSHA's Safety & Health Achievement Recognition Program (SHARP), which recognizes businesses that operate exemplary safety and health programs.
- We provide power ranging from a few kilowatts to multiple megawatts with redundancy and paralleling options.
- We invest in technology to stay one step ahead. Winterization, electronic control systems, and telemetry are just a few areas we invest in to stay consistently ahead.
- Cutting-edge temperature controlled units available for cold weather climates.
- Sound-attenuated packages exceeding OSHA Occupational Noise Exposure Standards (less than OSHA's PEL of 90 DBA for an 8-hour day)
- Mesa's competitive pricing and superior reliability make us the best value available to you in the generator business.
- Mesa Solutions de-rates generator sets based on a number of factors including elevation and fuel quality.
- Mesa's monthly rates include delivery, service, 24/7 support, and maintenance.
- Mesa pricing is all inclusive: no hidden fees, no surprises, no associated costs.
- Mesa's telemetry system is included.
- Mesa is capable of microgrid design and implementation.

