



Automating Compliance and Alternative Fuels Monitoring at Travel Centers

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NTC 2022 Alternative Fuels

Introduction and Background

WRA provides compliance monitoring and fuel systems diagnostic services to retail petroleum operators, including travel center chains.

Travel Centers are the facilities where you will likely encounter renewable fuels in the tank and piping configuration.

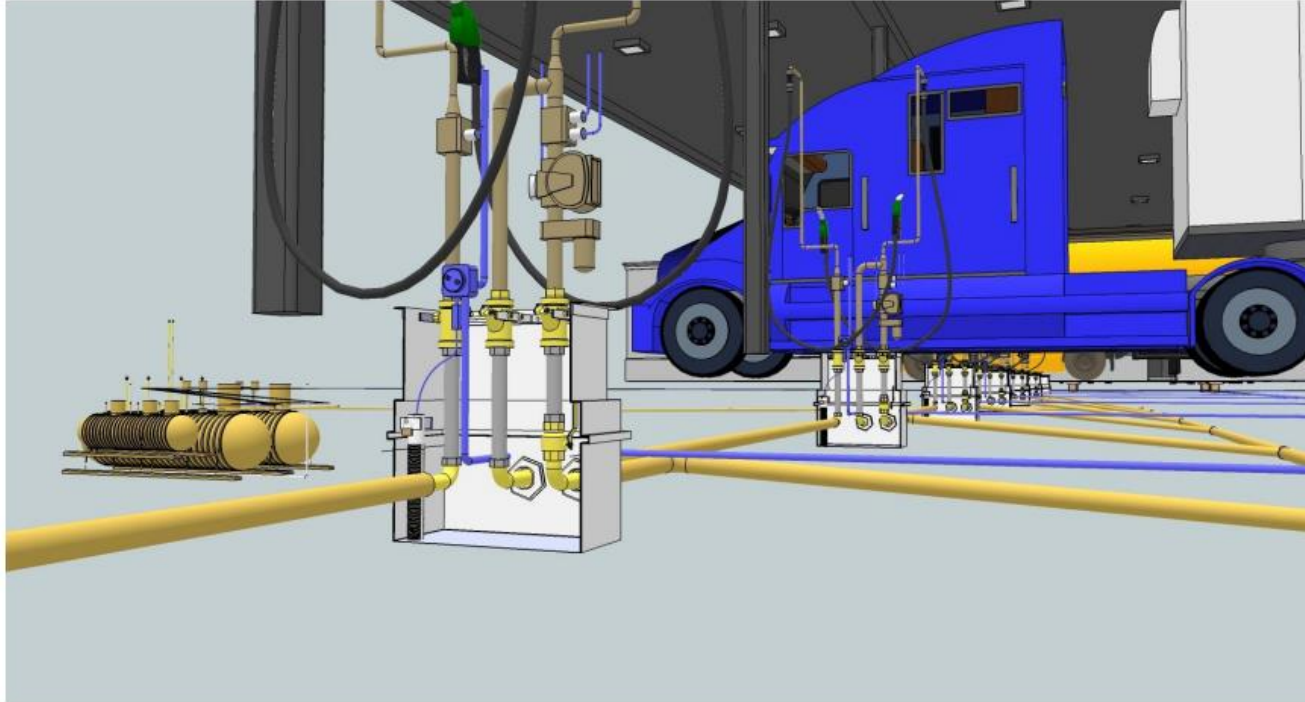
Fueling activity at Travel Centers is high tempo and product is dispensed at high flow rates.

Blending of B99 and ULSD is generally accomplished at the Travel Center.

Characteristics of Travel Centers

- **High Throughput**
- **Long Piping Runs**
- **Manifolding**
- **Satellite Dispensers**
- **Biodiesel Blending Common On Site**

Characteristics of Travel Centers



Characteristics of Travel Centers

- 2-5 Diesel UST's with Manifolding
- 1-2 Regular UST's
- 1 Premium UST (May Be in a Compartmented Tank)
- 1 B99 UST
- 1 DEF UST
- Also: CNG/EV

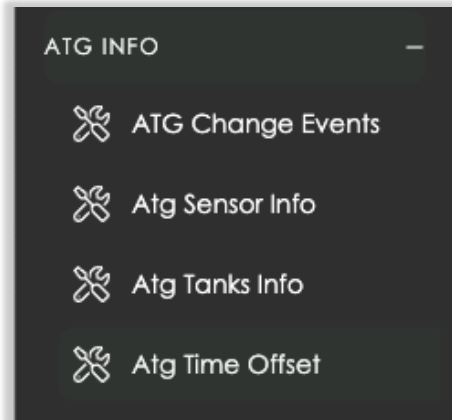
What Forms of Leak Detection are Used at Travel Centers?

- **Sensor Monitoring**
- **SIR**
- **ATG CSLD/SCALD/ Static**
- **CITLDS Continual Reconciliation**
- **Annual Line Tests (Trunk and/or Satellite Lines)**
- **MLLD/ELLD**

What Operating Principles Apply for Managing Travel Centers?

- **Managing ATG Console Configuration**
- **Maintaining Compliance for Complex Tank Systems**
- **Managing and Monitoring Biodiesel Blending**
- **Digital Work Order Systems**
- **Managing Fuel Quality**

Achieve ATG Integrity





Be Alerted to changes in:


- Tank Charts
- Sensor Types
- Sensors Off

Early Warnings-Compliance

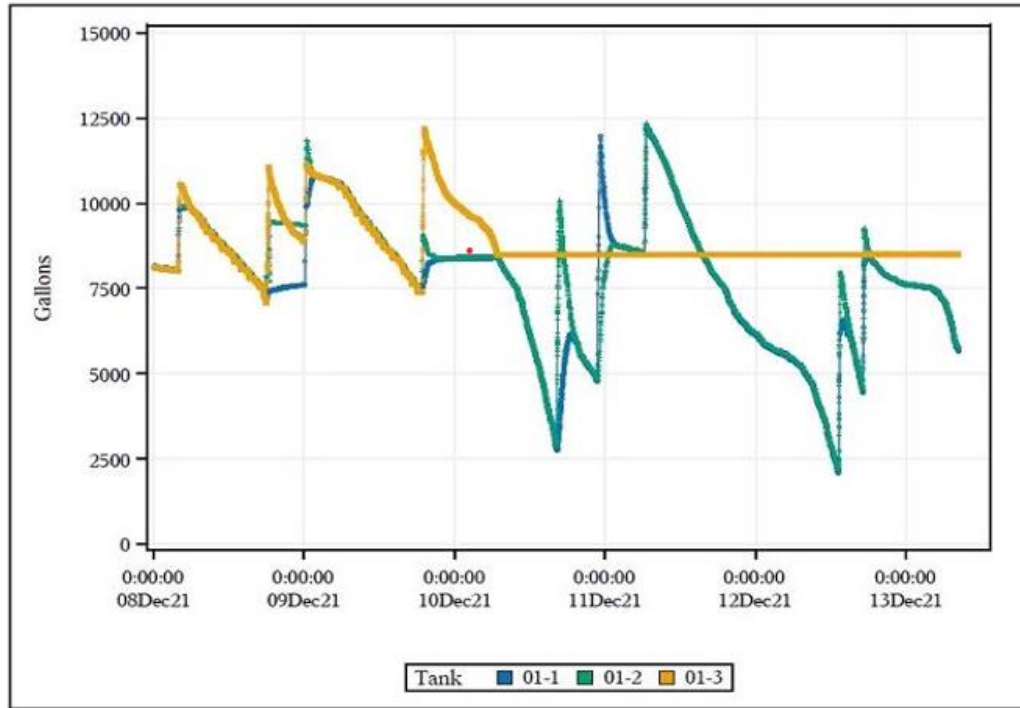
LOCATION	ATGID	SENSOR NUMBER	SENSOR CLASS	SENSOR LABEL	SENSOR TYPE	SENSOR CATEGORY	SENSOR CONFIGURATION
Site XXXX	ATG	1	Liquid Sensor	DISPENSER SUMP 1-2	Tri-State	Dispenser Pan	ON
Site XXXX	ATG	2	Liquid Sensor	DISPENSER SUMP 3-4	Tri-State	Dispenser Pan	ON
Site XXXX	ATG	3	Liquid Sensor	DISPENSER SUMP 5-6	Tri-State	Dispenser Pan	ON
Site XXXX	ATG	4	Liquid Sensor	DISPENSER SUMP 7-8	Tri-State	Dispenser Pan	ON
Site XXXX	ATG	5	Liquid Sensor	DISPENSER SUMP 9-10	Tri-State	Dispenser Pan	ON
Site XXXX	ATG	6	Liquid Sensor	DISPENSER SUMP 11-12	Tri-State	Dispenser Pan	ON
Site XXXX	ATG	9	Liquid Sensor	TANK 1 UL STP SUMP	Tri-State	STP Sump	ON
Site XXXX	ATG	10	Liquid Sensor	TANK 2 ETH STP SUMP	Tri-State	STP Sump	ON
Site XXXX	ATG	11	Liquid Sensor	TANK 1 INTERSTITAL	Dual Float Hydrostatic	Annular	OFF
Site XXXX	ATG	12	Liquid Sensor	TANK 2 INTERSTITAL	Dual Float Hydrostatic	Annular	ON

Early Warnings - Compliance

Filter results...  All divisions Show Passing  Refresh

LOCATION	INFO	COMPLIANCE TYPE	TEST RESULT	DAYS REMAINING 
Site XXXX	Line: Premium	0.2 GPH ATG(Line)	Awaiting Passing Result	9
Site XXXX	Line: Unleaded	0.2 GPH ATG(Line)	Awaiting Passing Result	9
Site XXXX	T1: Unleaded 1	0.2 GPH ATG(Tank)	Awaiting Passing Result	9
Site XXXX	14 Sensors Required	Interstitial Monitoring	Awaiting Passing Result	12
Site XXXX	30 Sensors Required	Interstitial Monitoring	Awaiting Passing Result	16
Site XXXX	26 Sensors Required	Interstitial Monitoring	Awaiting Passing Result	19

Intelligent Pump Controllers- Monitoring Manifolds

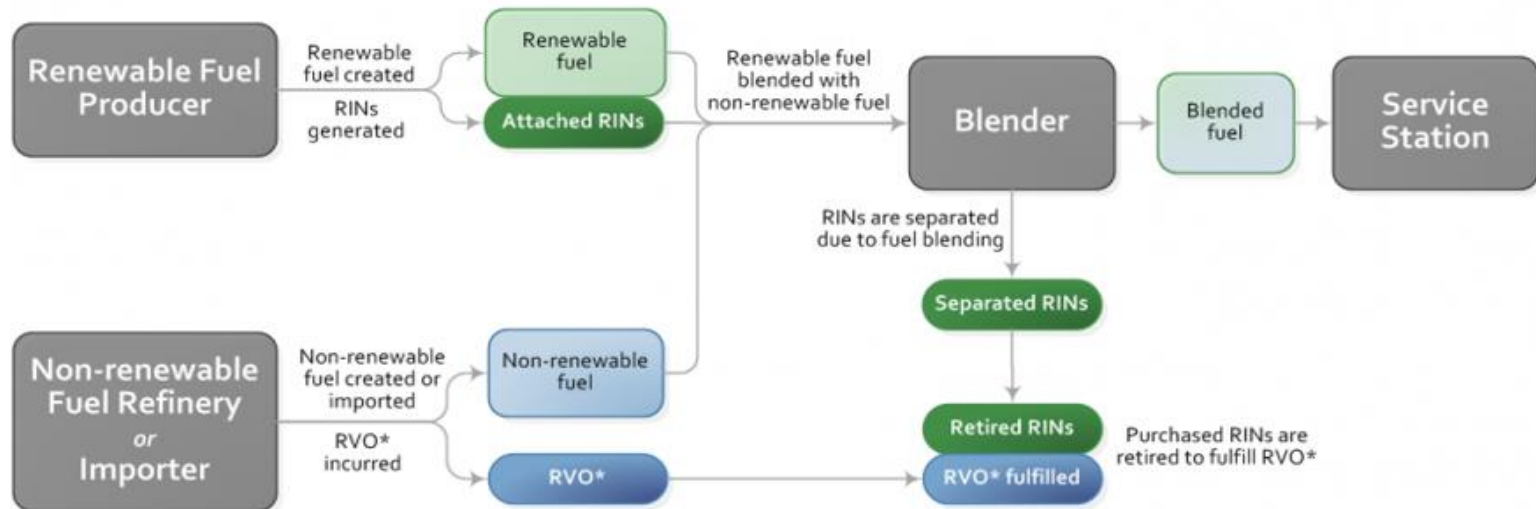


Why Retailers Blend Biodiesel

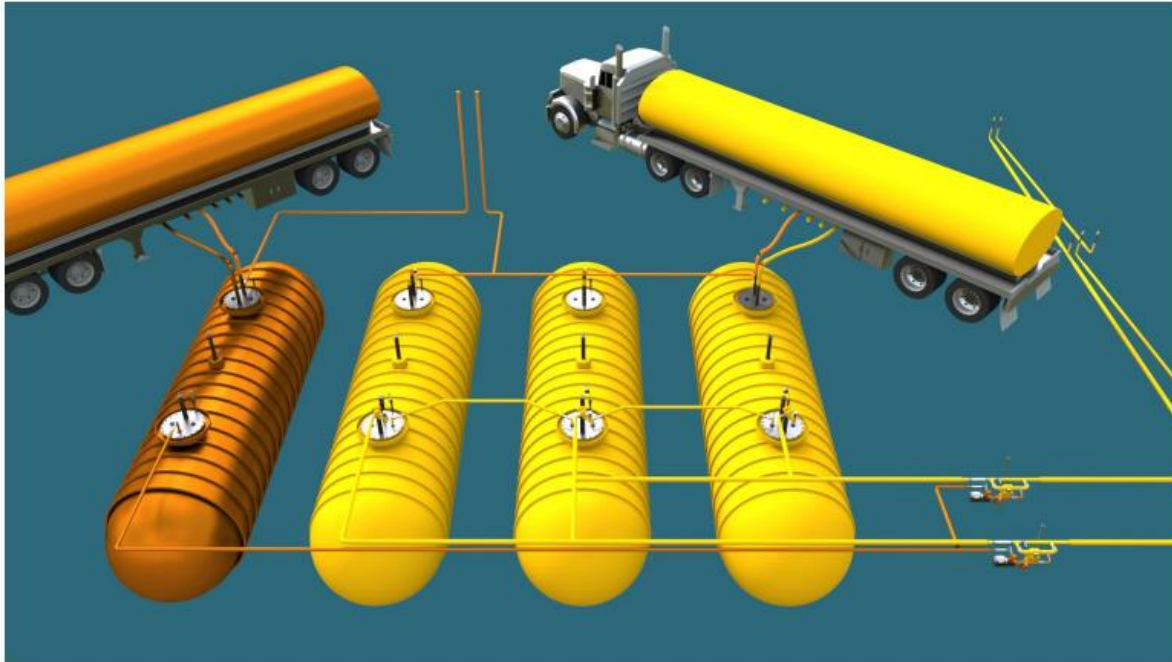
- Sustainable Fuel
- Federal Incentives (Biodiesel credit and RIN's)
- State Incentives

Biodiesel Blending

Example lifecycle of a Renewable Identification Number (RIN)



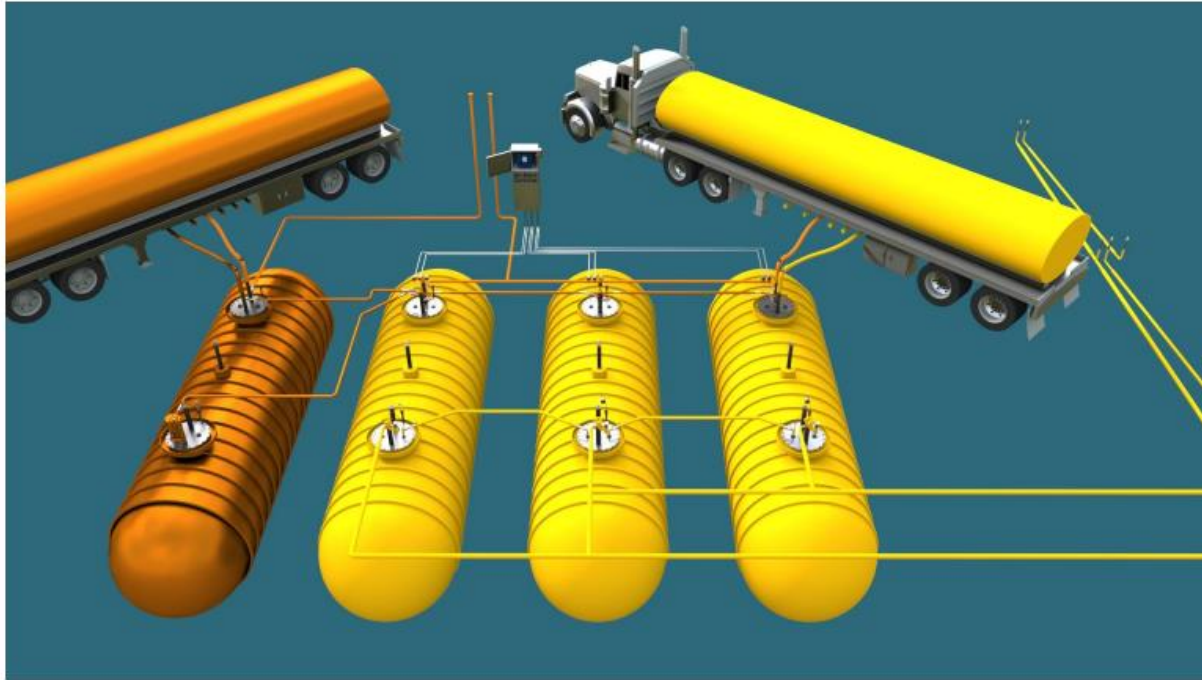
In-Line Blending



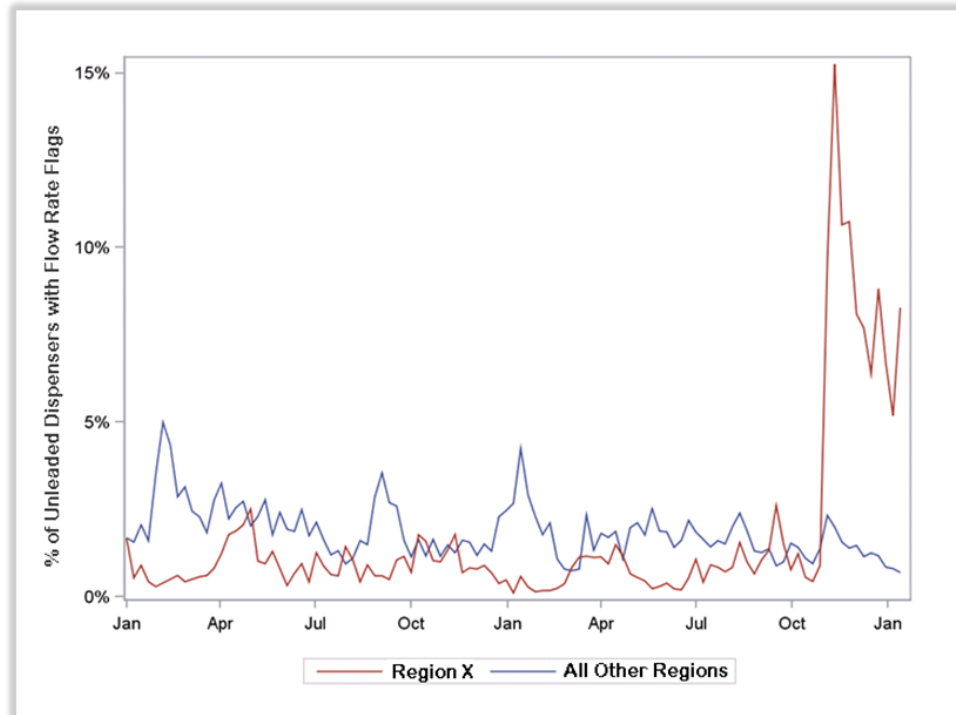
Inline Blending in Sump



Fill Blending



Fuel Quality Issues – Regional Level



Fuel Quality Issues – Site Level

- Not all fuel quality issues are supply related
- Presence of debris, sludge, water, and microbial growth in tanks can result in deteriorated fuel quality, even when fuel supply is clean

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Indicator – Tank Cleaning Needed

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- Persistent flow rate issues across all dispensing position
- Issues remain unresolved or return quickly after filter changes
- Erratic drops and recoveries in flow rates can indicate particulate matter or debris in tank



Thank you

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