Fuels Regulatory Streamlining Virtual Workshop

US EPA

December 9-10, 2020

A Live Event Broadcast

Participants are on mute

Ask Questions Via Q&A Chat

Closed Captions Lower Right

Day 1 Agenda

Time	Topic	Speaker
9:15 am EDT	Welcome and Opening Remarks	Mary Manners & Sarah Dunham
9:20	Workshop Overview	Mary Manners
9:30	Program Overview	Robert Anderson
10:00	General Provisions/Regulated Entities	Karen Nelson
10:45	*Break*	
11:00	Sampling and Testing	Joe Sopata
Noon	*Lunch*	
1:00 pm	Sampling and Testing (continued)	Joe Sopata
2:00	Certification, Designation	Jim Caldwell
2:45	*Break*	
3:00	Imports	John Connell
3:30	Transmix	Jeff Kodish
4:00	End of day 1	

About this Presentation

- This presentation is being given in furtherance of discussions over recent months and years with stakeholders on the streamlining of our existing fuel regulations.
- This presentation highlights the differences between 40 C.F.R. Part 80 and 40 C.F.R. Part 1090 and provides examples.
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Streamlining Program Design and Fuel Quality Standards

Robert Anderson

Overview

- What is Fuels Streamlining?
- Regulation Outline
- Implementation Dates
- Part 1090 Fuel Quality Standards

What is Fuels Streamlining?

- A rewrite of all of our 40 CFR Part 80 fuel regulations (other than RFS) into the new Part 1090 that better reflects today's fuel marketplace
  - Reduce number of reg pages from over 1,000 to less than 300
    - Deleting expired provisions
    - Consolidating/eliminating redundant compliance provisions
    - Removing unnecessary and out-of-date requirements

- Streamlining will:
  - Reduce administrative burden and costs for EPA and stakeholders
    - Saves industry $40.4 in administrative costs
  - Provide even greater (unquantified) savings to industry and consumers through simplified fuel production and distribution
  - Improve compliance assurance nationwide
  - Does not change the stringency of the fuel standards

Regulation Outline

- Subpart A – General Requirements
  - Generally applicable provisions (like definitions, where to submit requests for EPA approval, rounding etc.)
  - Streamlined and updated these provisions

- Subpart B – Regulated Parties
  - Roadmap for general regulatory requirements sorted by party

- Subparts C and D – Gasoline and Diesel Fuel Standards
  - Mostly unchanged
  - Collected the standards into specific subparts to make them easier to find

Regulation Outline (cont.)

- Subpart F – Transmix Provisions
  - Updated and streamlined transmix producer and transmix blender provisions

- Subpart G – Exemptions, Hardships, and Special Provisions
  - Consolidated part 80 exemptions, hardships, and special provisions from the different fuels programs into a single set of provisions
  - Not covered in this workshop
  - Export questions may be covered in Certification/Designations session

- Subpart H – Average, Banking, and Trading Provisions
  - Consolidated part 80 benzene and sulfur ABT provisions
  - Added provisions for BOB recertification
  - Topic will be covered as part of Reporting session

Regulation Outline (cont.)

- Subpart I – Registration
  - Mostly streamlined and updated the provisions related to registration requirements
  - Removed no longer needed registration requirements,
  - Added regulations for common registration situations (deactivation and ownership changes)
  - Coincides with EPA's ongoing efforts to improve its registration system

- Subpart J – Reporting
  - Consolidated, streamlined, and updated the various reporting requirements across non-RFS fuels programs
  - Coordinating with EPA's ongoing work to enhance information collection systems

- Subpart N – Sampling, Testing, and Retention Provisions
  - Codified published guidance in the regulations
  - Updated sampling and testing procedures
  - Method qualification and quality control procedures mostly unchanged

Regulation Outline (cont.)

- Subpart K – Batch Certification and Designation
  - Clarified batch certification procedures for fuels, fuel additives, and regulated blendstocks
  - Updated diesel fuel designation requirements
  - Consolidated gasoline designation requirements

- Subpart L – Product Transfer Documents
  - Consolidated the various PTD provisions across the programs into a single set of provisions
  - Adjusted requirements to reflect changes in streamlined fuels program

- Subpart M – Recordkeeping Provisions
  - Consolidated recordkeeping requirements into a single set of recordkeeping provisions
  - Mostly the same as part 80, if a party needed to keep records under part 80, they'll need to keep records under part 1090

Regulation Outline (cont.)

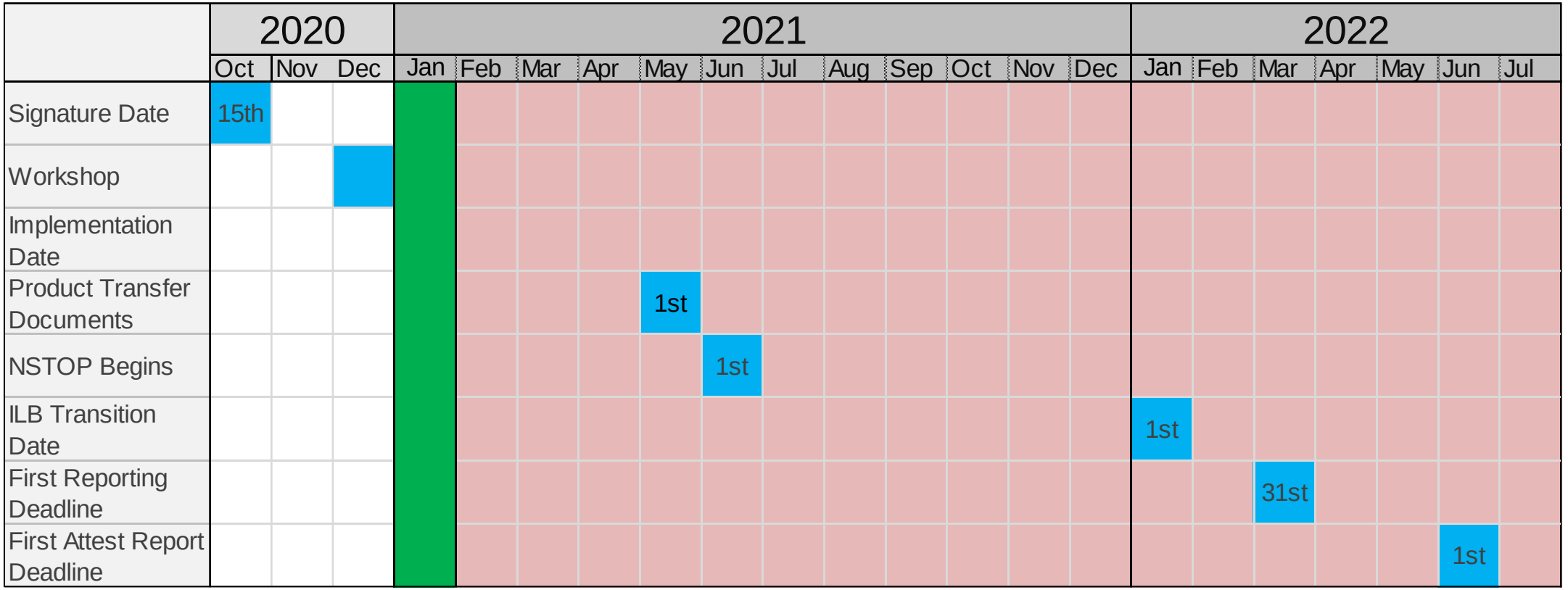
- Subpart O – Survey Procedures
  - Consolidated part 80 surveys into the National Fuels Survey Program
  - Replaced RFG independent lab program with National Sampling and Testing Oversight Program
- Subpart P – Labeling Provisions
  - Removed unnecessary labeling procedures; other labeling provisions unchanged
  - Not covered in this workshop
- Subpart Q – Importer and Exporter Provisions
  - Codified guidance in the regulations and clarified procedures for certain import and export situations

Regulation Outline (cont.)

- Subpart R – Violations
  - Consolidated and streamlining the various compliance and enforcement provisions into a single subpart
  - Not covered in this workshop

- Subpart S – Auditing Procedures
  - Updated part 80 attest auditing procedures
  - Added new procedures for PBMS and SQC review
  - Not covered in this workshop; however, registration and reporting sessions will cover administrative procedures

Streamlining Implementation Dates



Part 1090 Fuel Quality Standards

Overview

- 40 CFR part 1090, subparts C and D cover gasoline and diesel fuel standards, respectively

- In general, standards remain unchanged between part 80 and part 1090
  - Focus of the rule was primarily on streamlining the compliance provisions of EPA's non-RFS fuels programs
  - As the preamble noted, some changes to compliance provisions may have small, indirect effects on fuel quality

- However, we did translate the reformulated gasoline summer volatile organic compound (VOC) standards into a maximum per-gallon RVP standard

- Also, streamlined the certified butane and certified pentane specifications

Gasoline Standards Comparison

Standard	Part 80	Part 1090
Sulfur (average)	10.00 ppm	10.00 ppm
Sulfur (per-gallon)	80 ppm gate, 95 ppm downstream	80 ppm gate, 95 ppm downstream
Benzene (average)	0.62 volume percent	0.62 volume percent
Benzene (max average)	1.30 volume percent	1.30 volume percent
Summer RVP*	9.0 psi, 7.8 psi	9.0 psi, 7.8 psi
Summer RFG Volatility Control*	Three VOC performance standards	7.4 psi RVP

* The 0.3 psi RVP tolerance would still be considered

- Except for the translation of the RFG summer RFG VOC performance standards to a per-gallon RVP cap, gasoline standards are unchanged.
- Gasoline additives and oxygenate standards are also unchanged.

Certified Butane/Pentane Specifications

Part 1090 Standard	Certified Butane	Certified Pentane
Purity	85%	95%
Benzene	0.03 vol%	0.03 vol%
Sulfur	10 ppm	10 ppm
Chemical Composition Limitation	CHONS	CHONS

- Biggest change for standards is the treatment of butane and pentane blending
- Consolidated two grades of butane/pentane under part 80 into a single grade of certified butane/pentane under part 1090
- Established minimum purity specifications for butane/pentane to be qualified as certified
  - Removed specifications related to no longer used Complex Model parameters
  - Fixed certified butane purity specification in published FR notice
- Benzene, sulfur, and chemical composition specifications are unchanged

Diesel Fuel Standards Comparison

Standard	Part 80	Part 1090
ULSD Sulfur (max per-gallon)	15 ppm, 2 ppm downstream test tolerance	15 ppm, 2-ppm downstream test tolerance
LM 500 Sulfur (max per-gallon)	500 ppm	500 ppm
ECA Marine (max per-gallon)	1,000 ppm	1,000 ppm
Cetane Index	Minimum 40	Minimum 40
Aromatics (max per-gallon)	35 volume percent	35 volume percent

- Diesel fuel standards are unchanged between part 80 and part 1090
- Requirements for diesel fuel additives remain the same
- Global marine fuel is treated identically as well

Subparts A and B

Karen Nelson

About this Presentation

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The Purpose of Subpart A – General Provisions

- Under Part 80, each fuel program had similar requirements and compliance methods, but because these programs were established in a piecemeal fashion over time, redundancies and inconsistencies resulted.
  - For example, definitions were not consolidated in a single section under Part 80; and
  - Similar requirements were worded inconsistently in the different sections where appeared.

- Under Part 1090, Subpart A houses general requirements that apply throughout the rest of Part 1090.
  - Subpart A covers the applicability and scope of the regulations, definitions, and outlines the Part 1090 implementation dates.

Consolidated Definitions and New Terminology

- Definitions were sprinkled throughout Part 80.
  - This made them hard to find and could lead to inconsistencies.
  - Part 80 also used terminology that was sometimes counterintuitive.

- Part 80 terminology did not align with Part 79 terminology, sometimes making the regulations unclear, for example:
  - Part 79 used the term fuel "manufacturer."
  - Part 80 used a broad meaning for the term "refinery" and "refiner."

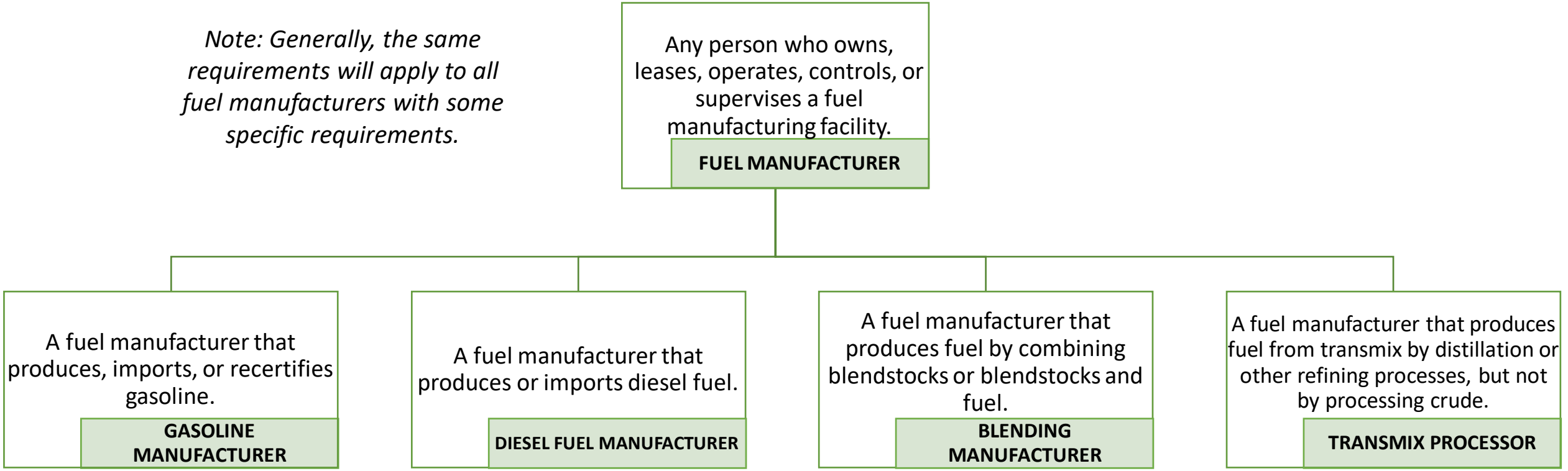
- Definitions under Part 1090 are all within one section in Subpart A.
  - This should make definitions easier to find which should lead to fewer inconsistencies in future rulemakings.
  - Part 1090 definitions align with Part 79 terminology and this is intended to make the regulations more plain language.
    - Example: under the part 80 terminology, what are now "blending manufacturers" were captured by the broad definition of "refiners," even if they did not process crude through refining equipment.

Definitions Covered in this Presentation

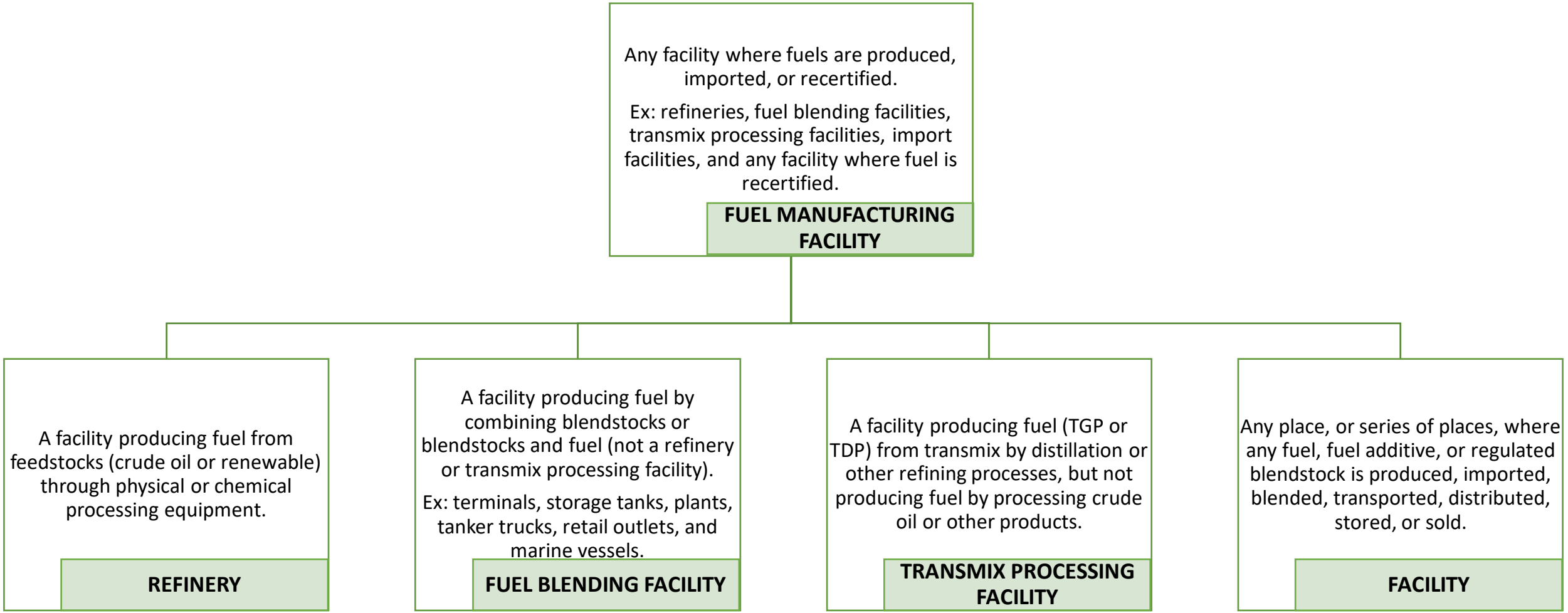
- Fuel Manufacturer
  - Gasoline Manufacturer
  - Diesel Fuel Manufacturer
  - Blending Manufacturer
  - Transmix Manufacturer
- Fuel Manufacturing Facilities
  - Refinery
  - Fuel Blending Facility
  - Transmix Processing Facility
  - Facility
- Fuels
  - Gasoline
  - Diesel Fuel
- Additive Manufacturer
- Fuel Additive Blender
- Regulated Blendstock Manufacturer
- Other Regulated Parties
  - Retailers and Wholesale Purchaser-Consumers (WPCs)
  - Distributors
  - Independent Parties: Auditors and Surveyors

Part 1090 Fuel Manufacturers

Note: Generally, the same requirements will apply to all fuel manufacturers with some specific requirements.



Part 1090 Fuel Manufacturing Facilities



“Facility” and “Fuel Manufacturing Facility Gate”

- There may be instances in which a fuel manufacturing facility has a connected terminal at which the fuel manufacturer may own or lease storage tanks.
  - Such terminals can be used to conduct operations that normally occur at a refinery, like combining blendstocks or designating the fuel as domestic or export.
  - Such tanks are within the control of the refiner and are often used because of limited tank capacity at the refinery itself.
- *Are these extra storage tanks **before** or **after** the “fuel manufacturing facility gate”?*
- The fuel manufacturing facility gate is the point at which the fuel leaves the fuel manufacturing facility at which the fuel manufacturer certified the fuel.
- The definitions of “facility” and “fuel manufacturing facility” are broad enough to allow flexibility for fuel manufacturers to certify batches of fuels using many different facility configurations, including cases where the fuel manufacturer operates an adjacent terminal.
- There is also language in §1090.1000(a)(5) that requires the fuel manufacturer to certify each batch of fuel at the facility where they produced the fuel or at a facility that is under the complete control of the fuel manufacturer before they transfer title or sole custody of the fuel to any other person.

Fuel Additive Manufacturer and Fuel Additive Blender

- Under part 1090, we added the existing Part 79 terminology of “Fuel Additive Manufacturer” and created a new defined term, “Fuel Additive Blender,” to harmonize EPA fuels terminology.
  - A fuel additive manufacturer is any person who owns, leases, operates, controls, or supervises a facility where additives are produced or imported into the United States.
  - A fuel additive blender is any person who blends fuel additive into fuel in the United States, or any person who owns, leases, operates, controls, or supervises such an operation in the United States.

- Under both part 79 and part 80, parties that only blend fuel additives into fuels are not fuel manufacturers; they are fuel additive blenders.

- The requirements on fuel additive manufacturers and blenders have not changed, but we have made our terminology consistent across part 79 and part 1090.

Regulated Blendstock Manufacturer

- Historically, EPA has not regulated blendstocks.
  - This is still true under Part 1090.
  - However, parties requested a flexibility for blending blendstocks downstream from the fuel manufacturing facility gate without incurring the requirements of a fuel manufacturer, and the process of certifying regulated blendstocks makes this possible.
    - Examples of regulated blendstocks include GTAB, butane, and pentane.

- Part 1090 created a logical grouping for parties that produce regulated blendstocks, simplifying and making consistent the requirements on those parties: regulated blendstock manufacturers.

Other Regulated Parties

- Retailers and Wholesale Purchaser-Consumers (WPCs)
  - Part 1090 consolidated the labeling and refueling hardware provisions applicable to retailers and WPCs.
  - The requirements on these parties have not changed.

- Distributors: any person who transports or stores or causes the transportation or storage of gasoline or diesel fuel at any point between any gasoline or diesel fuel refinery or importer's facility and any retail outlet or wholesale purchaser-consumer's facility.
  - The same requirements apply as did under part 80.
  - These requirements have been consolidated and simplified under part 1090.

- Independent Parties: Auditors and Surveyors
  - In order to bring more clarity and consistency to independent parties, we have outlined some requirements to ensure their independence from the regulated parties employing them.
  - These requirements are a distinct from part 80.

Fuels Definitions

Gasoline

- Any fuel commonly or commercially known as gasoline, including BOB.
- Any fuel intended or used to power a vehicle or engine designed to operate on gasoline.
- Any fuel that conforms to the specifications of AST D4814 and is made available for use in a vehicle or engine designed to operate on gasoline.

Diesel Fuel

- Any fuel commonly or commercially known as diesel fuel.
- Any fuel (including NP diesel fuel or a fuel blend that contains NP diesel fuel) that is intended or used to power a vehicle or engine that is designed to operate using a diesel fuel.
- Any fuel that conforms to the specifications of ASTM D975 and is made available for use in a vehicle or engine designed to operate using diesel fuel.

“Made Available for Use”

- If a person makes a product available for use by designating it as gasoline or placing it in the fuel distribution system, or if the product is used in a gasoline-fueled vehicle or engine, the product must be subject to EPA standards.

- Generally, any fuel that is stored, sold, or placed into a fuel distribution system that supplies fuel for use in gasoline- or diesel-fueled vehicles or marine vessels has been “made available for use” in these vehicles or vessels.

- Example: a party mixes two distillate blends in a tank, identifies the product as a distillate blend, and loads it onto a barge that will transfer the product to a vessel that runs on Emission Control Area (ECA) marine fuel.
  - EPA considers this product to be ECA marine fuel that has been **made available for use** in a marine vessel, and the person producing the fuel would be subject to all the requirements that apply to fuel manufacturers and distributors under Part 1090.

The Purpose of Subpart B

- Subpart B is a new subpart; there is no equivalent under Part 80.

- Subpart B lays out the general requirements for regulated parties and is a roadmap for Part 1090. Subpart B…
  - Informs and reminds parties of what is generally required of them;
  - Provides references to the specific requirements, where appropriate; and
  - Houses other general requirements.
    - Example: parties that take custody of fuel, like producers or distributors, have an obligation to keep certain records showing transfer of custody but not title.

  - Subpart B does not remove or modify any obligation required under Part 1090.

How to think about Subparts A and B

- If the Part 1090 were a shopping mall…

- Then subpart A would be your information and help desk.
  - Provides generally applicable information that help parties understand Part 1090.
    - Scope and applicability;
    - Definitions;
    - Rounding rules;
    - Implementation dates; etc.

- And subpart B would be a detailed, multilayer map and information placard.

Discussion and Additional Information

- Please submit your questions through the Q&A box

- Resources
  - Guides and Job Aids to be rolled out over time on our website
    - https://www.epa.gov/fuels-registration-reporting-and-compliance-help/registration-fuel-programs (main page)

  - Sign up for EnviroFlash, if you have not already
    - https://enviroflash.epa.gov/enviroflashOTAQPublic/Subscriber.do?method=start (EnviroFlash sign up for fuels registration & reporting)

  - Help Desk
    - To submit a question after the presentation, email fuelsprogramsupport@epa.gov
    - In order to provide you with timely feedback, please submit each question as a separate inquiry to the help desk

  - Part 1090 eCFR
    - https://bit.ly/3qEnBrz

Sampling, Testing and Retention

Joe Sopata

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Overview of sampling & testing regulatory streamlining requirements covered in this presentation

- §1090.1300 – General Provisions
- §1090.1310 – Testing to demonstrate compliance with standards
- §1090.1330 – Preparing denatured fuel ethanol
- §1090.1335 – Collecting, preparing and testing samples
- §1090.1337 – Demonstrating homogeneity
- §1090.1340 – Preparing a handblend from BOB
- §1090.1345 – Retaining samples
- §1090.1350 – Overview of test procedures
- §1090.1355 – Calculation adjustments and corrections
- §1090.1360 – Performance Based Measurements System
- §1090.1365 – Qualifying criteria for measurement procedures
- §1090.1370 - Qualifying criteria for reference installations
- §1090.1375 - Quality control procedures

§1090.1300 General Provisions

§1090.1300(a)(1) - Sections 1090.1310 through 1090.1330 specify the scope of required testing, including special provisions that apply in several unique circumstances.

§1090.1300(a)(2) - Sections 1090.1335 through 1090.1345 specify handling procedures for collecting and retaining samples.

§1090.1300(a)(2) - Sections 1090.1350 through 1090.1375 specify the procedures for measuring specified parameters that apply to anyone performing testing under §1090.1300 .

§1090.1300 General Provisions (continued)

1090.1300(b) – first batch of product triggers requirements for minimum requirements of a quality assurance program. The specified frequency serves at both a deadline for the performing required tests as well as the starting point for next testing period.

- 1090.1300(b)(1) & 1090.1300(b)(2) - Examples provided illustrating requirements for testing based on sampling the more frequent of every 90 days or 500,000 gallons of certified butane received from a supplier

1090.1300(c) - Anyone acting on behalf of a regulated party to demonstrate compliance with requirements under this part must meet the requirements of this subpart in the same way that the party needs to meet those requirements for its own testing. The regulated party and the third party will both be liable for any violations arising from the third party's failure to meet the requirements of this subpart

§1090.1300 General Provisions (continued)

- 1090.1300(d) - Anyone performing tests under this subpart must apply good laboratory practices for all sampling, measurement, and calculations related to testing. This requires performing these procedures in a way that is consistent with generally accepted scientific and engineering principles and properly accounting for all available relevant information.
- 1090.1300(e) –Subpart Q has provisions related to importation, including additional provisions that specify how to meet the sampling and testing requirements of this subpart.

§1090.1310 Testing to demonstrate compliance with standards

Additional testing specified for fuel, fuel additive and regulated Blendstock prior to release from facility, except as specified in §1090.1315.

- Diesel fuel - Perform testing for each batch of 15 ppm Sulfur Ultra Low Sulfur Diesel, 500 ppm sulfur Locomotive and Marine diesel fuel, and ECA marine fuel to demonstrate compliance with sulfur standards.
- Gasoline - Perform testing for each batch of gasoline to demonstrate compliance with sulfur standards and perform testing for each batch of summer gasoline to demonstrate compliance with RVP standards.

§1090.1310 Testing to demonstrate compliance with standards (continued)

Specifies testing provisions that apply for gasoline, oxygenate, certified ethanol denaturant, certified butane, and certified pentane

§1090.1310(c)(1) - A gasoline manufacturer producing Blendstock for Oxygenate Blending (BOB) for which oxygenate added downstream is accounted for under §1090.710 must prepare a hand blend as specified in §1090.1340 and perform the following measurements:

- §1090.1310(c)(1)(i) - Measure the sulfur content of both the BOB and the hand blend.
- §1090.1310(c)(1)(ii) - Measure the benzene content of the hand blend, except as specified in §1090.1325(c)
  - §1090.1325(c) - A transmix processor producing gasoline by only adding Transmix Gasoline Product (TGP) to Previously Certified Gasoline (PCG) does not have to measure the benzene content of the finished gasoline.
- §1090.1310(c)(1)(iii) - For Summer CG, measure the RVP of the BOB.
- §1090.1310(c)(1)(iv) - For Summer RFG, measure the RVP of the hand blend.

§1090.1310 Testing to demonstrate compliance with standards (continued)

§1090.1310(c)(2) - A gasoline manufacturer producing gasoline for which oxygenate added downstream is not accounted for under §1090.710 (e.g., E0 or so-called sub-octane gasoline) must perform the following measurements:

- §1090.1310(c)(2)(i) - Measure the sulfur content of the gasoline.
- §1090.1310(c)(2)(ii) - Measure the benzene content of the gasoline, except as specified in §1090.1325(c).
- §1090.1310(c)(2)(iii) - Measure the RVP of the gasoline, for Summer CG and Summer RFG.
- §1090.1310(c)(2)(iv)- Create a hand blend as specified in §1090.1340 and measure the RVP of the hand blend, for Summer RFG that is designated as “Intended for Oxygenate Blending” under §1090.1010(a)(4).
- §1090.1310(c)(2)(v) - Measure the oxygenate content of the gasoline, for gasoline blended with oxygenate.

§1090.1310 Testing to demonstrate compliance with standards (continued)

§1090.1310(c)(3) - An oxygenate producer must measure the sulfur content of each batch of oxygenate, except that a Denatured Fuel Ethanol (DFE) producer may meet the alternative requirements in §1090.1330.

§1090.1310(c)(4) - An ethanol denaturant producer that certifies denaturant under §1090.1330 must measure the sulfur content of each batch of denaturant.

§1090.1310(c)(5) - A certified butane or certified pentane producer must perform sampling and testing to demonstrate compliance with purity specifications for butane and pentane, as well as sulfur and benzene standards as specified in §1090.1320.

§1090.1310 Testing to demonstrate compliance with standards (continued)

§1090.1310(c)(6) - A transmix processor producing gasoline from TGP must test each batch of gasoline for parameters required to demonstrate compliance with §1090.505 as specified in §1090.1325.

§1090.1310(d) - A blending manufacturer producing gasoline by adding blendstock to PCG must comply with §1090.1320.

§1090.1310(e) - For gasoline produced at a fuel blending facility or a transmix processing facility, a gasoline manufacturer must measure such gasoline for oxygenate and for distillation parameters (i.e., T10, T50, T90, final boiling point, and percent residue). However, a fuel manufacturer or transmix processor does not need to measure the oxygenate content of gasoline if PCG, transmix, TGP, and blendstocks used to produce the batch did not contain any oxygenates, based on the documentation requirements specified in §1090.1310(e)(1) and §1090.1310(e)(2).

§1090.1330 Preparing denatured fuel ethanol

Instead of measuring every batch, a DFE producer or importer may calculate the sulfur content of a batch of DFE as follows:

- §1090.1330(a) - Determine the sulfur content of ethanol before adding denaturant by measuring sulfur content as specified in §1090.1310 or by estimating it based on your production quality control procedures.
- §1090.1330(b) - Use the ppm sulfur content of certified ethanol denaturant specified on the Product Transfer Document (PTD) for the batch. If the sulfur content is specified as a range, use the maximum specified value.
- §1090.1330(c) - Calculate the weighted sulfur content of the DFE using the values determined under §1090.1330(a) and §1090.1330(b).

§1090.1335 Collecting, preparing, and testing samples

§1090.1335(a) – General provisions.

- Use good laboratory practice to collect samples to represent the batch you are testing.
- For example, take steps to ensure that a batch is always well mixed before sampling.
- Always take steps to prevent sample contamination, such as completely flushing sampling taps and piping, and pre-rinsing sample containers with the product being sampled.

§1090.1335 Collecting, preparing, and testing samples (continued)

§1090.1335(b) - Manual sampling, follow ASTM D4057

- §1090.1335(b)(1) - Collect a “running” or “all-levels” sample from the top of the tank. Drawing a sample from a standpipe is acceptable only if it is slotted or perforated to ensure that the drawn sample properly represents the whole batch of fuel.
- §1090.1335(b)(2)(i) - Use tap sampling or spot sampling to collect upper, middle, and lower samples if a running or all-levels sample is impractical for a given storage configuration. Collect samples that most closely match the recommendations in Table 5 of ASTM D4057. Adjust spot sampling for partially filled tanks as shown in Table 1 or Table 5 of ASTM D4057, as applicable.
- §1090.1335(b)(2)(ii) - Spot sampling must not be used for certification testing unless the tank contains less than 10 feet of product.

§1090.1335 Collecting, preparing, and testing samples (continued)

- §1090.1335(b)(3) - If the procedures in paragraphs (b)(1) and (2) are impractical for a given storage configuration, you may use alternative sampling procedures as specified in ASTM D4057. This applies primarily for sampling with trucks, railcars, retail stations, and other downstream locations.
- §1090.1335(b)(4) - Test results with manual sampling are valid only after you demonstrate homogeneity as specified in §1090.1337.
- §1090.1335(b)(5) - Except as specified for marine vessels in §1090.1605, you must not do certification testing with a composite sample from manual sampling.

§1090.1335 Collecting, preparing, and testing samples (continued)

§1090.1335(c) – Automatic sampling, follow ASTM,D4177.

§1090.1335(d) – RVP measurement, follow ASTM D5842.

§1090.1335(e) – *Testing to demonstrate compliance with standards*.

- §1090.1335(e)(1) - Perform testing as specified in this subpart. .
- §1090.1335(e)(2) - For parameters subject to per-gallon standards, report the highest measured value (or the lowest measured value for testing related to cetane index or other parameters that are subject to a standard representing a minimum value). This applies for repeat tests on a given sample and for testing multiple samples (including head, middle, and tail samples from automatic sampling). A batch is noncompliant if any tested sample does not meet all applicable per-gallon standards.
- §1090.1335(e)(3) - In the case of automatic sampling for parameters subject to average standards, report the result from the composite sample to represent the batch for demonstrating compliance with the average standard. For any repeat testing with the composite sample, calculate the arithmetic average from all tests to represent the batch.

§1090.1335 Collecting, preparing, and testing samples (continued)

- §1090.1335(e)(4) - In the case of manual sampling for parameters subject to average standards, determine the value representing the batch as follows:
  - §1090.1335(e)(4)(i) - For testing with only a single sample, report that value to represent the batch. If there are repeat tests with that sample, report the arithmetic average from all tests to represent the sample.
  - §1090.1335(e)(4)(ii) - For testing with more than one sample, report the arithmetic average from all tested samples to represent the batch. If there are repeat tests for any sample, calculate the arithmetic average of those repeat tests to determine a single value to represent that sample before calculating the average value to represent the batch.

§1090.1337 Demonstrating homogeneity

§1090.1337(a) - Certification test results corresponding to manual sampling as specified in §1090.1335(b) are valid only if collected samples meet the homogeneity specifications at §1090.1337, except that the homogeneity testing requirement does not apply in the following cases:

- §1090.1337(a)(1) – There is only a single tap or spot sample using ASTM D4057.
- §1090.1337(a)(2) - Upright cylindrical tanks that have a liquid depth of less than 10 feet.
- §1090.1337(a)(3) - Spot or tap samples are drawn, test each sample for every parameter subject to a testing requirement, and use the worst-case test result for each parameter for purposes of reporting, meeting per-gallon and average standards, and all other aspects of compliance.
- §1090.1337(a)(4) - Sampling at a downstream location where it is not possible to collect separate samples and steps are taken to ensure that the batch is well mixed.

§1090.1337 Demonstrating homogeneity (Continued)

§1090.1337(b)(1) - Testing performed to establish homogeneity is not considered certification testing, except as specified in paragraph (b)(2) of this section.

§1090.1337(b)(2) - Homogeneity testing may be used as certification testing if any of the following criteria are met:

- §1090.1337(b)(2)(i) - All tested samples meet all applicable per-gallon standards.
- §1090.1337(b)(2)(ii) - The testing meets the requirement in §1090.1335(b)(2)(ii).
- §1090.1337(b)(2)(iii) - The testing follows the procedures specified in §1090.1337(a)(3).

§1090.1337(c) - Use spot sampling as specified in §1090.1335(b)(2) for homogeneity testing. Tap sampling is acceptable if spot sampling is impractical for a given facility.

§1090.1337 Demonstrating homogeneity (Continued)

§1090.1337(d) - Demonstrate homogeneity for gasoline using two of the procedures specified below with each sample. For summer gasoline, the homogeneity demonstration must include RVP measurement.

- §1090.1337(d)(1) - Measure API gravity using ASTM D287, ASTM D1298, ASTM D4052, or ASTM D7777 (incorporated by reference in §1090.95).
- §1090.1337(d)(2) - Measure sulfur content as specified in §1090.1360.
- §1090.1337(d)(3) - Measure benzene content as specified §1090.1360.
- §1090.1337(d)(4) - Measure RVP as specified in §1090.1360.

§1090.1337(e) – Demonstrate homogeneity for diesel fuel using one of the procedures listed in §1090.1337(d)(1) for API gravity or §1090.1337(d)(2) for sulfur content.

§1090.1337 Demonstrating homogeneity (Continued)

§1090.1337(f) - A batch is homogeneous for a given parameter if the measured values for all tested samples vary by less than the published reproducibility (R) of the test method multiplied by 0.75 (R × 0.75).

- If R is a function of measured values, calculate R using the average value of the measured parameter representing all tested samples.
- Calculate using all meaningful significant figures as specified for the test method, even if §1090.1350(c) describes a different precision.
- For cases that do not require a homogeneity demonstration under §1090.1337(a)(1) through §1090.1337(a)(4), the lack of homogeneity demonstration does not prevent a quantity of fuel, fuel additive, or regulated blendstock from being considered a batch for demonstrating compliance with the requirements of §1090.

§1090.1340 Preparing a hand blend from BOB

§1090.1340(a) **-** If you produce or import BOB and instruct downstream blenders to add oxygenate, you must meet the §1090.1340 by blending oxygenate that reflects the anticipated sulfur content and benzene content of the oxygenate for blending into a BOB sample.

- To do this, prepare each hand blend by adding oxygenate to the BOB sample in a way that corresponds to your instructions to downstream blenders for the sampled batch of fuel.

§1090.1340 Preparing a hand blend from BOB (continued)

§1090.1340(a)(1) - Take steps to avoid introducing high or low bias in sulfur content when selecting from available samples to prepare the hand blend.

- For example, if there are three samples with discrete sulfur measurements, select the sample with the mid-range sulfur content. In other cases, randomly select the sample.

§1090.1340(b) - Prepare the hand blend using the procedures specified in ASTM D7717 (Note: This applies to next slide as well).

- The hand blend must have an amount of oxygenate that does not exceed the oxygenate concentration specified on the PTD for the BOB under §1090.1110(b)(1).

§1090.1340 Preparing a hand blend from BOB (continued)

§1090.1340(a)(2) - If your instructions allow for a downstream blender to add more than one type or concentration of oxygenate, prepare the hand blend as follows:

- §1090.1340(a)(2)(i) - For summer gasoline intended for blending with ethanol, use the lowest specified ethanol blend.
- §1090.1340(a)(2)(ii) - For all winter gasoline and for summer gasoline intended for blending only with oxygenate other than ethanol, use the lowest specified oxygenate concentration, regardless of the type of oxygenate.
  - As an example, if you give instructions for a given batch of BOB to perform downstream blending to make E10, E15, and an 8 percent blend with butanol, prepare a hand blend for testing winter gasoline with 8 percent butanol, and prepare an E10 hand blend for testing summer gasoline.

§1090.1345 Retaining samples

§1090.1345(a)(1) - A fuel manufacturer, regulated blendstock producer, or independent surveyor must keep representative samples of gasoline, diesel fuel, or oxygenate that is subject to certification testing requirements under this subpart for at least 30 days after testing is complete, except that a longer sample retention of 90 days applies for a blending manufacturer that produces gasoline.

§1090.1345(a)(2) - A certified pentane producer must keep representative samples of certified pentane for at least 30 days after testing is complete.

§1090.1345(a)(3) - A blending manufacturer required to test blendstock under §1090.1320(a)(2) must keep representative samples of the blendstock and the new batch of gasoline for at least 90 days after testing is complete.

§1090.1345 Retaining samples (continued)

§1090.1345(a)(4) - An oxygenate producer or importer must keep oxygenate samples as follows:

- §1090.1345(a)(4)(i) - Keep a representative sample of any tested oxygenate. Also keep a representative sample of DFE if you used the provisions of §1090.1330 to calculate its sulfur content.
- §1090.1345(a)(4)(ii) - Keep all the samples you collect over the previous 21 days. If you have fewer than 20 samples from the previous 21 days, continue keeping the most recent 20 samples collected up to a maximum of 90 days for any given sample.

§1090.1345 Retaining samples (continued)

§1090.1345(a)(5) - The nominal volume of retained liquid samples must be at least 330 ml. If you have only a single sample for testing, keep that sample after testing is complete. If you collect multiple samples from a single batch or you create a hand blend, select a representative sample as follows:

- §1090.1345(a)(5)(i) - If you are required to test a hand blend under §1090.1340, keep a sample of the BOB and a sample representative of the oxygenate used to prepare the hand blend.
- §1090.1345(a)(5)(ii) - For summer gasoline, keep an untested (or less tested) sample that is most like the tested sample, as applicable. In all other cases, keep the tested (or most tested) sample.

§1090.1345 Retaining samples (continued)

§1090.1345(c) - Keep records of all calculations, test results, and test methods for the batch associated with each stored sample.

§1090.1345(d) - If EPA requests a test sample, you must follow EPA's instructions and send it to EPA by a courier service (or equivalent). The instructions will describe where and when to send the sample. For each test sample, you must identify the test results and test methods used.

§1090.1345(e) - You are responsible for meeting the requirements of this section even if a third party performs testing and stores the fuel samples for you.

§1090.1350 Overview of test procedures

A fuel manufacturer, fuel additive manufacturer, regulated blendstock producer, or independent surveyor meets the requirements of this subpart based on laboratory measurements of the specified fuel parameters. Test procedures for these measurements apply as follows:

§1090.1350(a) - Performance-based Measurement System specified in §§1090.1360 through 1090.1375 applies for all testing specified at §1090.1350 for the following fuels and fuel parameters:

- §1090.1350(a)(1) - Sulfur content of diesel fuel.
- §1090.1350(a)(2) - Sulfur content of ECA marine fuel.
- §1090.1350(a)(3) - RVP, sulfur content, benzene content, and oxygenate content of gasoline. The procedures for measuring sulfur in gasoline in this subpart also apply for testing sulfur in certified ethanol denaturant; however, demonstrating compliance for alternative procedures in §1090.1365 and statistical quality control in §1090.1375 do not apply for sulfur concentration above 80 ppm.
- §1090.1350(a)(4) - Sulfur content of butane.

§1090.1350 Overview of test procedures (continued)

§1090.1350(b) - Specific test procedures apply for measuring other fuel parameters, as follows:

- §1090.1350(b)(1) - Determine the cetane index of diesel fuel as specified in ASTM D976 or ASTM D4737.
  - There is no cetane-related test requirement for biodiesel that meets ASTM D6751.
- §1090.1350(b)(2) - Measure aromatic content of diesel fuel as specified in ASTM D1319 or ASTM D5186. You may use an alternative procedure if you correlate your test results with ASTM D1319 or ASTM D5186.
  - There is no aromatics-related test requirement for biodiesel that meets ASTM D6751.

§1090.1350 Overview of test procedures (continued)

§1090.1350(b)(3) - Measure the purity of butane as specified in ASTM D2163.

§1090.1350(b)(3) - Measure the purity of pentane as specified in ASTM D2163 or ASTM D5134.

§1090.1350(b)(4) - Measure the benzene content of butane and pentane as specified in ASTM D2163, ASTM D5134, ASTM D6729, or ASTM D6730.

§1090.1350(b)(5) - Measure the sulfur content of pentane as specified in ASTM D5453.

§1090.1350(b)(6) - Measure distillation parameters as specified in ASTM D86. You may use an alternative procedure if you correlate your test results with ASTM D86.

§1090.1350 Overview of test procedures (continued)

§1090.1350(b)(7) - Measure the sulfur content of neat ethanol as specified in ASTM D5453. You may use an alternative procedure if you adequately correlate your test results with ASTM D5453.

§1090.1350(b)(8) - Measure the phosphorus content of gasoline as specified in ASTM D3231.

§1090.1350(b)(9) - Measure the lead content of gasoline as specified in ASTM D3237.

§1090.1350(b)(10) - Measure the sulfur content of gasoline additives and diesel fuel additives as specified in ASTM D2622.

§1090.1350(b)(12) - Updated versions of the test procedures specified in this section are acceptable as alternative procedures if both repeatability and reproducibility are the same or better than the values specified in the earlier version.

§1090.1350 Overview of test procedures (continued)

§1090.1350(b)(11) - Use referee procedures specified in §1090.1360(d) and the following additional methods to measure gasoline fuel parameters to meet the survey requirements of subpart O of this part:

Fuel Parameter	Units	Test Method -1
Distillation	°C	ASTM D86
Aromatic content	volume percent	ASTM D5769
Olefin content	volume percent	ASTM D6550
1 - ASTM specifications are incorporated by reference, see §1090.95.		

§1090.1350 Overview of test procedures (continued)

§1090.1350(c) - Record measured values with the following precision, with rounding in accordance with §1090.50:

- §1090.1350(c)(1) - Record sulfur content to the nearest whole ppm.
- §1090.1350(c)(2) - Record benzene to the nearest 0.01 volume percent.
- §1090.1350(c)(3) - Record RVP to the nearest 0.01 psi.
- §1090.1350(c)(4) - Record oxygenate content to the nearest 0.01 mass percent for each calibrated oxygenate.
- §1090.1350(c)(5) - Record diesel aromatic content to the nearest 0.1 volume percent, or record cetane index to the nearest whole number.
- §1090.1350(c)(6) - Record gasoline aromatic and olefin content to the nearest 0.1 volume percent.
- §1090.1350(c)(7) - Record distillation parameters to the nearest whole degree.

§1090.1350 Overview of test procedures (continued)

§1090.1350(d) - For any measurement or calculation that depends on the volume of the test sample, correct the volume of the sample to a reference temperature of 15.56 °C. Use a correction equation that is appropriate for each tested compound. This applies for all fuels, blendstocks, and additives, except butane.

§1090.1355 Calculation adjustments and corrections.

Adjust measured values as follows:

§1090.1355(a) - Adjust measured values for total vapor pressure as follows:

- RVP (psi) = 0.956 x Ptotal – 0.347, where: Ptotal = measured total vapor pressure in psi

§1090.1355 Calculation adjustments and corrections. (continued)

§1090.1355(b) - For measuring the sulfur content and benzene content of gasoline, adjust a given test result upward in certain circumstances, as follows:

- §1090.1355(b)(1) - If your measurement method involves a published procedure with a Pooled Limit of Quantitation (PLOQ), treat the PLOQ as your final result if your measured result is below the PLOQ.
- §1090.1355(b)(2) - If your measurement method involves a published procedure with a limited scope but no PLOQ, treat the lower bound of the scope as your final result if your measured result is less than that value.
- §1090.1355(b)(3) - If you establish a Laboratory Limit of Quantitation (LLOQ) below the lower bound of the scope of the procedure as specified in ASTM D6259, treat the LLOQ as your final result if your measured result is less than the LLOQ. Note that this option is meaningful only if the LLOQ is less than a published PLOQ, or if there is no published PLOQ.

§1090.1355 Calculation adjustments and corrections. (continued)

§1090.1355(c) - For measuring the sulfur content of ULSD at a downstream location, subtract 2 ppm from the result.

§1090.1355(d) - For measuring the benzene content of butane and pentane, report a zero value if the test result is at or below the PLOQ or Limit of Detection (LOD) that applies for the test method.

§1090.1355(e) - If measured content of any oxygenate compound is less than 0.20 percent by mass, record the result as “None detected.”

§1090.1360 Performance-based Measurement System (PBMS)

- §1090.1360(a) - This subpart specifies the performance criteria for measuring certain fuel parameters to demonstrate compliance with the standards.
- §1090.1360(a) - These PBMS provisions do not apply to process stream analyzers used with in-line blending.
- §1090.1360(b) - Different requirements apply for absolute fuel parameters and method-defined fuel parameters.

§1090.1360 Performance-based Measurement System (PBMS) (continued)

- §1090.1360(b)(1) - Absolute fuel parameters are those for which it is possible to evaluate measurement accuracy by comparing measured values of a test sample to a reference sample with a known value for the measured parameter. The following are absolute fuel parameters:
- §1090.1360(b)(1)(i) - applies for measuring sulfur in any fuel, fuel additive, or regulated Blendstock
- §1090.1360(b)(2) - Method-defined fuel parameters are all those that are not absolute fuel parameters.
  - Additional test provisions apply for method-defined fuel parameters under this section because there is no reference sample for evaluating measurement accuracy.

§1090.1360 Performance-based Measurement System (PBMS) (continued)

- §1090.1360(c)(3) - Streamlined requirements for alternative procedures apply for procedures adopted by a voluntary consensus standards body (VCSB). Certification testing with non-VCSB procedures requires advance approval by EPA. Procedures are considered non-VCSB testing as follows:
  - §1090.1360(c)(i) - Procedures developed by individual companies or other parties are considered non-VCSB procedures.
  - §1090.1360(c)(ii) - Draft procedures under development by a VCSB organization are considered non-VCSB procedures until they are approved for publication.
  - §1090.1360(c)(iii) - A published procedure is considered non-VCSB for testing with fuel parameters that fall outside the range of values covered in the research report of the ASTM D6708 assessment comparing candidate alternative procedures to the referee procedure specified in §1090.1360(d).

§1090.1360 Performance-based Measurement System (PBMS) (continued)

- §1090.1360(c)(4) - You may use updated versions of the referee procedures as alternative procedures subject to the limitations of §1090.1365(a)(2).
- You may ask EPA for approval to use an updated version of the referee procedure for qualifying other alternative procedures if the updated referee procedure has the same or better repeatability and reproducibility compared to the version specified in §1090.95.
- If the updated procedure has worse repeatability or reproducibility compared to the earlier version, you must complete the required testing specified in §1090.1365 using the older, referenced version of the referee procedure.

§1090.1360 Performance-based Measurement System (PBMS) (continued)

- §1090.1360(c)(5) - Any laboratory may use the specified referee procedure without qualification testing. To use alternative procedures at a given laboratory, you must perform the specified testing to demonstrate compliance with precision and accuracy requirements, with the following exceptions:
  - §1090.1360(c)(5)(i) - Testing you performed to qualify alternative procedures under 40 CFR part 80 continues to be valid for making the demonstrations required in §1090.1365.
  - §1090.1360(c)(5)(ii) - Qualification testing is not required for a laboratory that measures the benzene content of gasoline using Procedure B of ASTM D3606. However, qualification testing may be necessary for updated versions of this procedure as specified in §1090.1365(a)(2).

§1090.1360 Performance-based Measurement System (PBMS) (continued)

§1090.1360(d) - Referee procedures are presumed to meet the initial qualifying criteria. Alternative procedures may be used if qualified as specified in §1090.1365. The following are the referee procedures:

Tested Product	Parameter	Referee Procedure-1
ULSD, 500 ppm diesel fuel, ECA marine fuel, gasoline	Sulfur	ASTM D2622
Butane	Sulfur	ASTM D6667
Gasoline	Oxygenate Content	ASTM D5599
Gasoline	RVP	ASTM D5191, except as specified in §1090.1355(a)
Gasoline	Benzene	ASTM D5769
1-ASTM specifications are incorporated by reference, see §1090.95		

§1090.1365 Qualifying criteria for alternative measurement procedures

This section specifies how to qualify alternative procedures for measuring absolute and method-defined fuel parameters under the Performance-based Analytical Test Method specified in §1090.1360.

§1090.1365(a) - The following general provisions apply for qualifying alternative procedures:

§1090.1365 Qualifying criteria for alternative measurement procedures (continued)

§1090.1365(a)(1) - Alternative procedures must have appropriate precision to allow for reporting to the number of decimal places specified in §1090.1350(c).

§1090.1365(a)(2) - Testing to qualify an alternative procedure applies for the specified version of the procedure you use for making the necessary measurements.

- For referee procedures and for alternative procedures for method-defined fuel parameters that you have qualified for your laboratory, updated versions of those same procedures are qualified without further testing, as long as the specified reproducibility is the same as or better than the values specified in the earlier version.
- For absolute fuel parameters, updated versions are qualified without testing if both repeatability and reproducibility are the same as or better than the values specified in the earlier version.

§1090.1365 Qualifying criteria for alternative measurement procedures (continued)

§1090.1365(a)(3) - Except as specified in paragraph (d) of this section, testing to demonstrate compliance with the precision and accuracy specifications in this section apply only for the laboratory where the testing occurred.

§1090.1365(a)(4) - If a procedure for measuring benzene or sulfur in gasoline has no specified Pooled Limit of Quantitation (PLOQ) and no specified scope with a lower bound, you must establish a Lower Limit of Quantitation (LLOQ) for your laboratory.

§1090.1365(a)(5) - Testing for method-defined fuel parameters must take place at a reference installation as specified in §1090.1370.

§1090.1365 Qualifying criteria for alternative measurement procedures (continued)

§1090.1365(b) - All alternative procedures must meet precision criteria based on a calculated maximum allowable standard deviation for a given fuel parameter as specified in §1090.1365(b).

The precision criteria apply for measuring the parameters and fuels specified in §1090.1365(b)(3).

Note: §1090.1365(b) describes the steps necessary to qualify the measurement procedure for measuring a given fuel parameter.

§1090.1365 Qualifying criteria for alternative measurement procedures (continued)

§1090.1365(b)(1) - The fuel must meet the parameter specifications in Table 1 to paragraph (b)(3) of this section. This may require that you modify the fuel you typically produce to be within the specified range. Absent a specification (maximum or minimum), select a fuel representing values that are typical for your testing. Store and mix the fuel to maintain a homogenous mixture throughout the measurement period to ensure that each fuel sample drawn from the batch has the same properties.

§1090.1365(b)(2) - Measure the fuel parameter from a homogeneous fuel batch at least 20 times. Record each result in sequence. Do not omit any valid results unless you use good engineering judgment to determine that the omission is necessary and you document those results and the reason for excluding them. Perform this analysis over a 20-day period. You may make up to 4 separate measurements in a 24-hour period, as long as the interval between measurements is at least 4 hours. Do not measure RVP more than once from a single sample.

§1090.1365(b)(3) - Calculate the maximum allowable standard deviation as follows: $\sigma max = X1 * X2/X3$, where σmax is the maximum allowable standard deviation, and X1, X2, and X3 have values from the table 1 to §1090.1365(b)(3). (See table 1to §1090.1365(b)(3))

§1090.1365 Qualifying criteria for alternative measurement procedures (continued)

§1090.1365(c) - Alternative VCSB procedures for measuring absolute fuel parameters (sulfur) must meet accuracy criteria based on the following measurement procedure:

- §1090.1365(c)(1) - Obtain gravimetric sulfur standards to serve as representative reference samples. The samples must have known sulfur content within the ranges specified in paragraph (c)(3) of this section. The known sulfur content is the accepted reference value (ARV) for the fuel sample.
- §1090.1365(c)(2) - Measure the sulfur content of the fuel sample at your laboratory at least 10 times, without interruption. Use good laboratory practice to compensate for any known chemical interferences; however, you must apply that same compensation for all tests to measure the sulfur content of a test fuel. Calculate the arithmetic average of all the measured values, including any compensation.

§1090.1365 Qualifying criteria for alternative measurement procedures (continued)

- §1090.1365(c)(3) - The measurement procedure meets the accuracy requirement as follows:
- §1090.1365(c)(3)(i) - Demonstrate accuracy for measuring sulfur in gasoline, gasoline regulated blendstock, and gasoline additive using test fuels to represent sulfur values from 1 to 10 ppm, 11 to 20 ppm, and 21 to 95 ppm. You may omit any of these ranges if you do not perform testing with fuel in that range. Calculate the maximum allowable difference between the average measured value and ARV for each applicable range as follows: Δmax=0.75·σmax, where: Δmax = Maximum allowable difference, and σmax = the maximum allowable standard deviation from §1090.1365(b)(3) using the sulfur content represented by ARV.

§1090.1365 Qualifying criteria for alternative measurement procedures (continued)

- §1090.1365(c)(3)((ii) Demonstrate accuracy for measuring sulfur in diesel fuel using test fuels meeting the specifications in Table 2 to this section. For testing diesel-related blendstocks and additives, use representative test samples meeting the appropriate sulfur specification. Table 2 (see Appendix) to this paragraph also identifies the maximum allowable difference between average measured values and ARV corresponding to ARV at the upper end of the specified ranges. These values are based on calculations with the equation in paragraph (c)(3)(i) of this section, with parameter values set to be equal to the standard.

§1090.1365 Qualifying criteria for alternative measurement procedures (continued)

§1090.1365(d) - Alternative VCSB procedures for measuring method-defined fuel parameters must meet accuracy criteria as follows:

- §1090.1365(d)(1) - You may use the alternative procedure only if you follow all the statistical protocols and meet all the criteria specified in Section 6 of ASTM D6708 (incorporated by reference in§1090.95) when comparing your measurements using the alternative procedure to measurements at a reference installation using the appropriate referee procedure identified in §1090.1360(d).
- §1090.1365(d)(2) - For qualifying alternative procedures, determine whether the alternative procedure needs a correlation equation to correct bias relative to the reference test method. Create such a correlation equation as specified in Section 7 of ASTM D6708. For all testing, apply the correlation equation to adjust measured values to be statistically consistent to measuring with the reference test method.
- §1090.1365(d)(3) - If an alternative VCSB procedure states that the procedure has a successful assessment relative to the referee procedures in this section under ASTM D6708, that finding applies for all laboratories using that procedure.

§1090.1365 Qualifying criteria for alternative measurement procedures (continued)

§1090.1365(e) - Alternative non-VCSB procedures for measuring absolute fuel parameters (sulfur) must meet accuracy criteria as follows:

- §1090.1365(e)(1) - Demonstrate whether the procedure meets statistical criteria and whether it needs a correlation equation as specified in paragraphs (d)(1) and (2) of this section. Apply the correlation equation for all testing with the alternative procedure.
- §1090.1365(e)(2) - Demonstrate at your laboratory that the alternative procedure meets the accuracy criteria specified in paragraph (c) of this section.
- §1090.1365(e)(3) - Send EPA a written request to use the alternative procedure. In your request, fully describe the procedure to show how it functions for achieving accurate measurements and include detailed information related to your assessment under paragraph (e)(1) and (2) of this section.

§1090.1365 Qualifying criteria for alternative measurement procedures (continued)

§1090.1350(f) - Alternative non-VCSB procedures for measuring method-defined fuel parameters must meet accuracy and precision criteria as follows:

- §1090.1365(f)(1) Demonstrate whether the procedure meets statistical criteria and whether it needs a correlation equation as specified in paragraphs (e)(1) and (2) of this section. Apply the correlation equation for all testing with the alternative procedure.
- §1090.1365(f)(2) Test with a range of fuels that are typical of those you will analyze at your laboratory. Use either consensus-named fuels or locally-named reference materials. Consensus-named fuels are homogeneous fuel quantities sent around to different laboratories for analysis, which results in a “consensus name” representing the average value of the parameter for all participating laboratories. Locally named reference materials are fuel samples analyzed using the reference test method, either at your laboratory or at a reference installation, to establish an estimated value for the fuel parameter; locally named reference materials usually come from the fuel you produce.
- §1090.1365(f)(3) - You may qualify your procedure as meeting the requirements of paragraph (f)(1) of this section only for a narrower, defined range of fuels. If this is the case, identify the appropriate range of fuels in your request for approval and describe how you will screen fuel samples accordingly.

§1090.1365 Qualifying criteria for alternative measurement procedures (continued)

- §1090.1365(f)(4) - Qualify the precision of the alternative procedure by comparing results to testing with the referee procedure based on “between methods reproducibility,” Rxy, as specified in ASTM D6708. The Rxy must be at or below 75 percent of the reproducibility of the referee procedure in §1090.1360(d).
- §1090.1365(f)(5) - Perform testing at your laboratory as specified in paragraph (b) of this section to establish the repeatability of the alternative procedure. The repeatability must be as good as or better than that specified in paragraph (b)(3) of this section.
- §1090.1365(f)((6) - Fully describe the procedure to show how it functions for achieving accurate measurements. Describe the technology, test instruments, and testing method so a competent person lacking experience with the procedure and test instruments would be able to replicate the results.

§1090.1365 Qualifying criteria for alternative measurement procedures (continued)

§1090.1365(f)(7) - Engage a third-party auditor to review and verify your information as follows:

- §1090.1365(f)(7)(i) - The auditor must qualify as an independent third party and meet the specifications for technical ability as specified in §1090.55.
- §1090.1365(f)(7)(ii) - The auditor must send you a report describing their inspection of your laboratories and their review of the information supporting your request to use the alternative procedure. The report must describe how the auditor performed the review, identify any errors or discrepancies, and state whether the information supports a conclusion that the alternative procedure should be approved.
- §1090.1365(f)(7)(iii) - The auditor must keep records related to the review for at least 5 years after sending you the report and provide those records to EPA upon request.

§1090.1365 Qualifying criteria for alternative measurement procedures (continued)

- §1090.1365(f)((8) - Send EPA a written request to use the alternative procedure. Include the specified information and any additional information EPA needs to evaluate your request.

§1090.1365(g) - Keep fuel samples from any qualification testing under this section for at least 180 days after you have taken all steps to qualify an alternative procedure under this section. This applies for testing at your laboratory and at any reference installation you use for demonstrating the accuracy of an alternative procedure.

§1090.1370 Qualifying criteria for reference installations (continued)

§1090.1370(a) - A reference installation refers to a laboratory that uses the referee procedure specified in §1090.1360(d) to evaluate the accuracy of alternative procedures for method-defined parameters, by comparing measured values to companion tests using one of the referee procedures in §1090.1360(d). This evaluation may result in an equation to correlate results between the two procedures that purport to measure the same fuel parameter via an ASTM D6708 assessment. Once a laboratory qualifies as a reference installation, that qualification is valid for five years from the qualifying date, consistent with good laboratory practices. Reference installation requirements are specified at §1090.1370.

§1090.1370 Qualifying criteria for reference installations (continued)

§1090.1370(b) - You may qualify a reference installation for VCSB procedures by participating in an interlaboratory crosscheck program with at least 16 separate measurements that are not identified as outliers. This presumes that the results for the candidate reference installation are not outliers.

§1090.1370(c) - You may qualify a reference installation for VCSB or non-VCSB procedures based on the following measurement protocol:

- §1090.1370(c)(1) - Use the precision testing procedure specified in §1090.1365(b) to show that your standard deviation for tests using the reference test method is at or below 0.3 times the reproducibility for a given fuel parameter.

§1090.1370 Qualifying criteria for reference installations (continued)

- §1090.1370(c)(2) - You must correlate your test results for a given fuel parameter against the accepted reference values from a monthly crosscheck program based on Section 6.2.2.1 and Note 7 of ASTM D6299 (incorporated by reference in §1090.95) as follows:
  - §1090.1370(c)(2)(i) - If there are multiple fuels available from the crosscheck program, select the fuel that has the closest value to the standard. If there is no standard for a given fuel parameter, select the fuel with values for the fuel parameter that best represent typical values for fuels you test.
  - §1090.1370(c)(2)(ii) - Measure the fuel parameter for the crosscheck fuel at your laboratory using the appropriate referee procedure. Calculate a mean value that includes all your repeat measurements.

§1090.1370 Qualifying criteria for reference installations (continued)

- §1090.1370(c)(2)(iii) - Determine the mean value from the crosscheck program and calculate the difference between this value and the mean value from your testing. Express this difference as a certain number of standard deviations relative to the data set from the crosscheck program.
- §1090.1370(c)(2)(iv) - The calculated monthly difference between the mean values from §1090.1365(c)(3)(ii) for 5 consecutive months must fall within the central 50 percent of the distribution of data at least 3 times. The central 50 percent of the distribution corresponds to 0.68 standard deviations.
- §1090.1370(c)(2)(iv) - The calculated monthly difference between the mean values from §1090.1365(c)(3)(ii) for 5 consecutive months must fall within the central 50 percent of the distribution of data at least 3 times. The central 50 percent of the distribution corresponds to 0.68 standard deviations, you may consider the reference installation as meeting the requirement to be in statistical quality control for at least 5 months

§1090.1370 Qualifying criteria for reference installations (continued)

- §1090.1370(c)(3) You must demonstrate that the reference installation is in statistical quality control for at least 5 months with the designated procedure as specified in ASTM D6299. If at any point the reference installation is not in statistical quality control, you must make any necessary changes and restart testing toward meeting the requirement to achieve statistical quality control for at least 5 months, except as follows:
  - §1090.1370(c)(3)(i) Do not consider measurements you perform as part of regular maintenance or recalibration for evaluating statistical quality control.
  - §1090.1370(c)(3)((ii) If you find that the reference installation is not in statistical quality control during an initial 5-month period and you are able to identify the problem and make the necessary changes to again achieve statistical quality control before the end of the 5-month demonstration period, you may consider the reference installation as meeting the requirement to be in statistical quality control for at least 5 months.

§1090.1375 Quality control procedures

This section specifies ongoing quality testing requirements as part of the Performance-based Measurement System specified in §1090.1360.

§1090.1375(a) - You must perform testing to show that your laboratory meets specified precision §1090.1375(b) and accuracy criteria §1090.1375(c).

- §1090.1375(a)(1) - The testing requirement applies for the referee procedures in §1090.1360(d) and for alternate procedures that are qualified or approved under §1090.1365. The testing requirements apply separately for each test instrument at each laboratory.
- §1090.1375(a)(2) – If you fail to conduct specified testing, your test instrument is not qualified for measuring fuel parameters to demonstrate compliance with the standards and other specifications of this part until you perform this testing. Similarly, if your test instrument fails to meet the specified criteria, it is not qualified for measuring fuel parameters to demonstrate compliance with the standards and other specifications of this part until you make the necessary changes to your test instrument and perform testing to show that the test instrument again meets the specified criteria.

§1090.1375 Quality control procedures (continued)

- §1090.1375(a)(3) - If you perform major maintenance such as overhauling an instrument, confirm that the instrument still meets precision and accuracy criteria before you start testing again based on the procedures specified in ASTM D6299.
- §1090.1375(a)(4) - Keep records to document your testing under this section for 5 years.

§1090.1375 Quality control procedures (continued)

- §1090.1375(b) - Precision demonstration. Show that you meet precision criteria as follows:
  - §1090.1375(b)(1) - Meeting the precision criteria of this paragraph (b) qualifies your test instrument for performing up to 20 tests or 7 days, whichever is less. Include all tests except for testing to meet precision or accuracy requirements.
  - §1090.1375(b)(2) - Perform precision testing using the control-chart procedures in ASTM D6299. If you opt to use procedure 2A (Q-Procedure) or 2B (dynamically updated exponentially weighted moving average), validate the first run on the new QC batch by either an overlap in-control result of the old batch, or by a single execution of an accompanying standard reference material. The new QC material result would be considered validated if the single result of the standard reference material is within the established site precision (R') of the ARV of the standard reference material.
  - §1090.1375(b)(3) - Use I charts and MR charts as specified in ASTM D6299 to show that the standard deviation for the test instrument meets the precision criteria specified in §1090.1365(b).

§1090.1375 Quality control procedures (continued)

- §1090.1375(c) - Accuracy demonstration. For absolute fuel parameters (VCSB and non-VCSB) and for method-defined fuel parameters using non-VCSB methods, you must show that you meet accuracy criteria as specified in this paragraph (c). For method-defined VCSB procedures, you may meet accuracy requirements as specified in this paragraph (c) or by comparing your results to the accepted reference value in an inter-laboratory crosscheck program sponsored by ASTM International or another VCSB at least 3 times per year.

§1090.1375 Quality control procedures (continued)

- §1090.1375(c)(1) - Meeting the accuracy criteria of this paragraph (c) qualifies your test instrument for 130 days.
- §1090.1375(c)(2) - Except as specified in paragraph (c)(3) of this section, test every instrument using a check standard meeting the specifications of ASTM D6299. Select a fuel sample representing fuel that is typical for your testing. is at or slightly below the standard that applies. If there are both average and batch standards, use the average standard. If there is no standard, select a fuel sample representing fuel that is typical for your testing.

§1090.1375 Quality control procedures (continued)

- §1090.1375(c)(3) - The following provisions apply for method-defined non-VCSB alternative procedures with high sensitivity to sample-specific bias:
  - §1090.1375(c)(3)(i) - Procedures have high sensitivity if the closeness sum of squares (CSS) statistic exceeds the 95th percentile value, as specified in ASTM D6708 (incorporated by reference in §1090.95).
  - §1090.1375(c)(3)(ii) - Create a check standard from production fuel representing the fuel you will routinely analyze. Determine the ARV of your check standard using the protocol in ASTM D6299 at a reference installation as specified in §1090.1370.
  - §1090.1375(c)(3)(iii) - You must send EPA a fuel sample from every twentieth batch of gasoline or diesel fuel and identify the procedures and corresponding test results from your testing. EPA may return one of your samples to you for further testing; if this occurs, you must repeat your measurement and report your results within 180 days of receiving the fuel sample.

§1090.1375 Quality control procedures (continued)

- §1090.1375(c)(4) - You meet accuracy requirements under this section if the difference between your measured value for the check standard and the ARV is less than the value from the following equation: Δmax=0.75·R·√(1+1/L)
  - Where: Δmax = Maximum allowable difference.
  - L = the total number of test results used to determine the ARV of a consensus-named fuel. For testing locally named fuels for which no consensus-based ARV applies, use L = ∞.
  - R = Reproducibility of the referee procedure identified in §1090.1360(d), as noted in Table 1 to paragraph (b)(3) of §1090.1365 (See following table).

§1090.1375 Quality control procedures (continued)

§1090.1375 Table 1 to paragraph (c)(4)—Criteria for Qualifying Alternative Procedures		
Tested Product	**Referee Procedure-1**	**Reproducibility (R)-2**
ULSD, 500 ppm diesel fuel, ECA marine fuel, diesel fuel additive, gasoline, gasoline regulated blendstock, and gasoline additive	ASTM D2622	R= 0.4273·x 0.8015
Butane	ASTM D6667	R= 0.3130·x
1 - ASTM specifications are incorporated by reference, see §1090.95		
2 - Calculate reproducibility using the average value determined from testing. Use units as specified in §1090.1350(c).		

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  - Part 1090 eCFR
    - https://bit.ly/3qEnBrz

Batch Certification and Designation (Subpart K)

Jim Caldwell

About this Presentation

- This presentation is being given in furtherance of discussions over recent months and years with stakeholders on the streamlining of our existing fuel regulations.
- This presentation highlights the differences between 40 C.F.R. Part 80 and 40 C.F.R. Part 1090 and provides examples.
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Regulatory Changes

- Consolidated certification and designation requirements for fuels, fuel additives, and regulated blendstocks into Subpart K
- **Certification** – formalized process for certifying batches of fuels, fuel additives, and regulated blendstocks
- **Gasoline designations** – revised designations to more closely match gasoline and BOB that are produced and sold in today's market
- **Diesel and other distillate fuel designations** – revised designations by eliminating obsolete designations
- **Other designations** – consolidated designations for regulated blendstocks

Batch Certification Requirements (1090.1000)

- Batches of fuel, fuel additive and regulated blendstock must be certified by the fuel manufacturer or blendstock producer
  - Includes gasoline, diesel, ECA marine fuel, oxygenates, certified butane, certified pentane, and certified ethanol denaturant
  - Exemptions listed in Subpart G (National security/military, R&D, racing/aviation, California gasoline, territories, exports, global marine fuel)

- Certification includes having the product manufacturer register with EPA, if required, and do the following for each batch;
  - Determine the volume and regulated properties of the batch
  - Ensure that the regulated properties meet the applicable standards
  - Assign a designation and a number to the batch, as applicable
  - State the designation on the Product Transfer Document (PTD) for the batch

- Each batch must be certified by the manufacturer at a facility that's under the control of the fuel manufacturer before custody or title is transferred to another person
  - Batch is a quantity of fuel, fuel additive or regulated blendstock that has a homogeneous set of properties
  - Facilities with in-line blending waivers may include up to 10 days of production in a single batch, provided the product is demonstrated to be homogeneous under 1090.1337
  - Blenders of certified butane or certified pentane may include up to one month's volume of blended butane or blended pentane as a batch for purposes of reporting

Gasoline Designations (1090.1010)

- Gasoline manufacturers assign original designation
  - Must register as a refiner, blending manufacturer, importer, transmix processor, certified butane blender or certified pentane blender
  - May designate gasoline as either summer or winter, combined with one of the following 4 product types: CBOB, CG, RBOB or RFG
  - Summer CBOB or CG must be further designated as 7.8 psi, 9.0 psi or SIP-controlled
  - RBOB and CBOB manufacturers must also designate the type and amount of oxygenate to be blended with the RBOB or CBOB
    - Manufacturers may also designate BOB as "Intended for Oxygenate Blending," if they have not included downstream-added oxygenate in their compliance calculations
  - California gasoline
  - Exempt gasoline

- Gasoline distributors may redesignate some products without recertifying
  - May redesignate summer BOB or gasoline to BOB or gasoline with a less stringent RVP standard, without recertification
  - May redesignate winter RBOB to winter CBOB, and winter RFG to winter CG, without recertification
  - May redesignate winter CBOB to winter RBOB, and winter CG to winter RFG, without recertification
  - May redesignate summer CBOB to summer RBOB, or summer CG to summer RFG, if RFG RVP is determined to be 7.4 psi or less

Diesel and other Distillate Fuel Designations (1090.1015)

- Diesel and distillate fuel manufacturers assign original designation
  - Must register as a refiner, blending manufacturer, importer or transmix processor
  - May designate distillate fuel as one of the following product types: ULSD, 500 ppm diesel, heating oil, jet fuel, kerosene, ECA marine fuel, global marine fuel, certified Non-transportation Distillate Fuel (NTDF), exempt diesel/distillate

- Diesel and distillate fuel distributors may redesignate some products without recertifying
  - Must designate diesel or distillate fuel that's in their custody by sulfur content
  - May redesignate diesel or distillate fuel to another fuel with less-stringent standards, without recertification (e.g., redesignate ULSD to heating oil, 500 ppm LM diesel to ECA marine fuel)
  - May redesignate non-ULSD distillate fuels to ULSD if the fuel meets ULSD standards (e.g., redesignate NTDF to ULSD)

Exported Diesel and Non-transportation Distillate Fuel

- Per 1090.645, exported diesel is exempt from the standards in Subpart D (Part 1090), if the exported diesel is segregated from the point of designation for export to the point of actual export
- Provisions for NTDF are in Part 80, these provisions were not changed under the streamlining rule
- NTDF designation is used to allow fungible transportation of 15 ppm sulfur distillate which is used as heating oil, ECA marine fuel or ULSD
- NTDF designation doesn’t include exported diesel

Oxygenates, Regulated Blendstocks and TGP Designations (1090.1010)

- Oxygenate producers must designate each batch of oxygenate intended for blending with gasoline (e.g., DFE, isobutanol)
- Certified ethanol denaturant producers must designate each batch of CED
- Certified butane producers and certified pentane producers must designate each batch of certified butane or certified pentane
- Transmix processors must designate each batch of transmix gasoline product as TGP, if TGP is transferred to another party

Discussion and Additional Information

- Please submit your questions through the Q&A box

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Importer Provisions

John Connell

About this Presentation

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Agenda

- Key Concepts
- Definitions
- Marine Vessel Imports
- Truck and Rail Imports
- Gasoline Treated as Blendstock (GTAB)

Key Concepts

- Regulations are designed to make sure that all fuel, including imported fuel, meets all applicable standards.

- Mainly we tried to keep provisions the same as in part 80 but there are some changes:
  - For the most part, CG and RFG importers now meet the same importation requirements.
  - Tried to incorporate Part 80 Questions and Answers into 1090 regulation.
  - Truck and rail importation flexibilities harmonized.

Key definitions
Subpart A – §1090.80

- *Importer* means any person who imports fuel, fuel additive, or regulated blendstock into the United States.
  - *Import Facility* means any facility where an importer imports fuel, fuel additive, or regulated blendstock.
  - *Aggregated Importer Facility* means all import facilities within a PADD owned or operated by an importer and treated as a single fuel manufacturing facility in order to comply with the maximum benzene average standards under §1090.210(b).

- *Gasoline Treated as Blendstock (GTAB)* means a gasoline regulated blendstock that is imported and used to produce gasoline as specified in §1090.1615.

Importation by Marine Vessel
Subpart Q – §1090.1605

- Same basic approach as Part 80:
  - One set of importation requirements that applies to both CG and RFG, for the most part.
  - Incorporated some Part 80 Q&A's into the 1090 regulation.

- Approaches to marine importation:
  - (1090.1605(b)(1)) Test every compartment on the ship and treat as a separate batch.
    - May test a single vessel volumetric composite sample if homogeneity is demonstrated.
    - In any case, the importer must ensure that the product complies with all applicable per-gallon standards before offloading.
  - (1090.1605(d)) Offload into shore tanks containing the same product (for gasoline must be either empty tanks or use PCG compliance by subtraction).

Importation Into Multiple Ports

- Certification required at each port, unless transported by the same vessel to subsequent ports without picking up additional fuel. But lightering certified fuel is permitted.

Rail and Truck Importers
Subpart Q – §1090.1610

- Core concept: Like part 80, importers of fuel, fuel additives, or regulated blendstocks by truck or rail must sample and test each compartment unless:
  - They meet the requirements for using the supplier's test results (1090.1610(a)(1)) or
  - They offload the product into a storage tank and certify it there (1090.1610(a)(2)).

- Extends the flexibility for using the supplier's test results to imports of gasoline by rail.

- Using the supplier's test results under 1090.1610(a)(1) is not mandatory. Can unload it into a tank and then certify it.

- The labs performing the testing must meet the PBMS requirements of subpart N just like any other lab.

- Per-gallon standards: if using the supplier's test results under 1090.1610(a)(1)) to import gasoline by truck or rail, must meet a per gallon benzene standard of .62 vol% and per gallon sulfur standard of 10 ppm

GTAB
Subpart Q – §1090.1615

- A lot easier than under part 80.

- GTAB may be excluded from compliance calculations if:
  - Importer reports it to EPA as GTAB,
  - GTAB is used as blendstock at a related facility to produce gasoline, and
  - The related facility reports the resulting gasoline to EPA and includes it in their compliance calculations.

- The importer may certify the GTAB as imported gasoline before transferring it to another party instead of blending it with blendstock (1090.1615(b)) and in fact is required to do this for any GTAB that is not ultimately used to produce gasoline (1090.1615(d)(2))

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Transmix Provisions

Jeff Kodish

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Agenda

- Key Concepts
- Definitions
- Transmix blenders
- Transmix processors
  - Gasoline produced with TGP and PCG
  - Gasoline produced with blendstocks
- Requirements relating to TGP used by blending manufacturers
- Diesel produced from transmix processors
- Reporting

Key Concepts

- Transmix processors play a unique role in the fuel distribution system.
- Regulations are designed to make sure that fuel produced by transmix processors meets all applicable standards.
- Since other fuel manufactures accounted for the sulfur and benzene content of transmix gasoline product (TGP), transmix processors and blending manufacturers who use TGP are required to exclude sulfur and benzene content of TGP from annual average compliance calculations and include sulfur and benzene content of any blendstocks in compliance calculations.
- Transmix processors cannot use any feedstock other than transmix to produce TGP or transmix diesel product (TDP).

Key Definitions
Subpart A – §1090.80

- *Transmix* means any of the following mixtures of fuels, which no longer meet the specifications for a fuel that can be used or sold as a fuel without further processing:
  - (1) Pipeline interface that is not cut into the adjacent products.
  - (2) Mixtures produced by unintentionally combining gasoline and distillate fuels.
  - (3) Mixtures of gasoline and distillate fuel produced from normal business operations at terminals or pipelines, such as gasoline or distillate fuel drained from a tank or drained from piping or hoses used to transfer gasoline or distillate fuel to tanks or trucks, or gasoline or distillate fuel discharged from a safety relief valve that are segregated for further processing.

Key Definitions (cont.)

- *Transmix blender* means any person who owns, leases, operates, controls, or supervises a transmix blending facility.
  - *Transmix blending facility* means any facility that produces gasoline by blending transmix into PCG under §1090.500.

- *Transmix processor* means any person who owns, leases, operates, controls, or supervises a transmix processing facility. A transmix processor is a fuel manufacturer.
  - *Transmix processing facility* means any facility that produces TGP or TDP from transmix by distillation or other refining processes, but does not produce gasoline or diesel fuel by processing crude oil or other products.
  - *Transmix gasoline product (TGP)* means the gasoline blendstock that is produced when transmix is separated into blendstocks at a transmix processing facility.

Transmix Blenders
Subpart F – §1090.500

- Same basic approach as Part 80
- The distillation end-point of the resultant transmix-blended gasoline must not exceed 437 degrees Fahrenheit
- Transmix-blended gasoline must meet the downstream sulfur per-gallon standard RVP standard in the summer
- Quality Assurance Program mirrors Part 80 requirements
- PTD, sampling, testing and recordkeeping requirements, but no registration or reporting requirements

Transmix Processors – TGP and PCG Only Subpart F – §1090.505

- Per-gallon standards: 95 ppm downstream per-gallon sulfur standard and applicable RVP standard
- Test but do not report distillation parameters
- Deemed in compliance with annual average sulfur and benzene standards
- Registration, certification and designation, PTD, sampling, testing and sample retention requirements, reporting and annual attest engagement requirements

Transmix Processors – Blendstocks Added Subpart F – §1090.505

- Per-gallon standards: 80 ppm fuel manufacturing gate per-gallon sulfur standard and applicable RVP standard

- Test but do not report distillation parameters

- Annual average standards: 1090.1325 sets forth provisions for determining the sulfur and benzene value of blendstocks to demonstrate compliance with annual average standards
  - Follow the PCG procedures in 1090.1320, and to treat the TGP like PCG
  - No credits may be generated for gasoline produced by transmix processing or transmix blending.

- Registration, certification and designation, PTD, sampling, testing and sample retention requirements, reporting and annual attest engagement requirements.

Compliance by Subtraction Subpart N - 1090.1320(a)(1)

- Determine the volume, sulfur content and benzene content of the TGP batch prior to addition of blendstocks
- Report the volume of the TGP as a negative value, and the sulfur and benzene contents as positive values
- After addition of blendstock, determine the volume, sulfur content, benzene content and RVP (summer gasoline only) of the final batch and report the volume and properties of the final batch as positive values
  - See PCG regulations and presentation for information regarding oxygenate testing and accounting

Simplified CBS Example

- 10,000 gallons of blendstock is added to 90,000 gallons of TGP
- Transmix processor would determine the following properties through sampling and testing:
  - TGP contains 10 ppm sulfur and 0.62 vol% benzene
  - Blend of TGP and blendstock contains 11 ppm sulfur, 0.60 vol% benzene and has an RVP of 8.8 psi
- Transmix processor would report the following information for the 2 batches
  - For TGP only: negative volume of 90,000 gallons, sulfur content of 10 ppm, benzene content of 0.62 vol%
  - For final batch (TGP + blendstock): positive volume of 100,000 gallons, sulfur content of 11 ppm, benzene content of 0.60 vol% and RVP of 8.8 psi

Compliance by Addition
Subpart N - 1090.1320(a)(2)

- Determine the volume, sulfur content and benzene content of each batch of blendstock added to TGP
  - Report the volume, sulfur content and benzene content of the batch of blendstock
  - This data is used in average compliance calculations for sulfur and benzene

- Determine the volume, sulfur content and RVP (summer gasoline only) for each final batch to determine compliance with per-gallon standards:
- Report the volume, sulfur and RVP of the final batch
  - See PCG regulations and presentation for information regarding oxygenate testing and accounting

Simplified CBA Example

- 10,000 gallons of blendstock is added to 90,000 gallons of TGP

- Transmix processor would determine the following properties through sampling and testing:
  - Blendstock contains 20 ppm sulfur and 0.42 vol% benzene
  - Blend of TGP and blendstock contains 11 ppm sulfur and has an RVP of 8.8 psi
  - Transmix processor would report the following information for the 2 batches
    - Report a positive volume of 10,000 gallons, a sulfur content of 20 ppm, and a benzene content of 0.42 vol% for the batch of blendstock
  - Report a volume of 100,000 gallons, sulfur content of 11 ppm, and RVP of 8.8 psi for the final batch (TGP + blendstock)

TGP Used by Blending Manufactures

- Purpose of provisions: Prevent the sale of uncertified TGP as gasoline.
- Transmix processor must designate TGP that they transport to another person as “TGP”
- PTD must say “Transmix Gasoline Product – not for use as gasoline”
- Blending Manufacturer must follow same basic rules for determining compliance with per-gallon and annual average standards

500 ppm LM Fuel Requirements Subpart F - 1090.515

- General Rule: Diesel fuel produced by transmix processors subject to ULSD standards and requirements
- Purpose of 500 ppm LM Requirements: Allow limited distribution of 500 ppm LM fuel to maintain efficiency in petroleum distribution system while ensuring that 500 ppm LM is only used in older technology locomotive and marine engines that do not require 15 ppm sulfur diesel fuel
- Same basic approach as Part 80, except:
  - ULSD may be added to 500 ppm LM storage tanks provided that the resultant mixture of 500 ppm LM and ULSD is treated as 500 ppm LM
  - Explicit language to allow 500 ppm LM fuel to be redesignated as ECA marine fuel, if the party that redesignates the fuel maintains PTDs or other records to demonstrate that the fuel complied with the 500 ppm standard

500 ppm LM Fuel Requirements Subpart F - 1090.515

- Compliance plan required that addresses segregation, demonstrates that end users will have access to ULSD for engines that require ULSD, identifies parties that will handle and use the fuel, and demonstrate how misfuelling will be prevented

- Additional requirements:
  - Can only be produced with TDP, ULSD and diesel fuel additives
  - Volume requirements
  - Use restrictions
  - Segregation requirements
  - No more than four parties may handle 500 ppm LM fuel from production to ultimate consumers.

Reporting Instructions

- Gasoline produced by adding blendstocks to TGP:
  - Blendstocks added to TGP – Report using either the compliance by addition or compliance by subtraction method and treat the TGP as PCG
  - If blendstocks are added to PCG and TGP – Report using either the compliance by addition or compliance by subtraction method. If using compliance by subtraction, report the volume and properties of the PCG batch as one batch and the volume and properties of the TGP batch as a second batch.
  - If complying by addition, use the volume type (“DBS”) for the blendstock and report the volume type (“OTH”) and the final designation (e.g. RFG, CG) as the product type for the final certified batch
- TGP only or TGP plus PCG – Report as one overall batch using the properties of the final certified batch. Report the volume type (“OTH”) and the final designation (e.g. RFG, CG) as the product type

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