

B. INDEPENDENT SAMPLING & TESTING

1. **Question:** What procedures should independent labs use to identify the samples for analysis under the 10% independent analysis option? What samples will EPA want to receive from independent labs?

Answer: Please see the following Protocol.^(10/3/94)

REFORMULATED GASOLINE PROGRAM INDEPENDENT SAMPLING AND TESTING REQUIREMENTS PROTOCOL

FOR USE BY INDEPENDENT LABS IN SELECTING SAMPLES FOR ANALYSIS UNDER THE 10% INDEPENDENT ANALYSIS OPTION, AND FOR IDENTIFYING SAMPLES TO SHIP TO EPA.

1.0 General Instructions.

1.1 This protocol constitutes EPA identification under § 80.65(f)(1)(ii)(B) of samples that must be analyzed for refiners and importers using the 10% independent analysis option of § 80.65(f)(1)(ii), and must be followed separately for each refinery or importer for which the independent lab is being used to fulfill the 10% independent analysis option. This protocol also constitutes EPA identification under § 80.65(f)(3)(iv) of samples that independent labs must ship to EPA .

1.2 In the case of the 10% independent analysis option, this protocol must be used to select the samples for analysis for each two week period. Each two-week period begins on Sunday night at midnight, and lasts for the subsequent two weeks. The first two-week period begins at midnight on August 7, 1994, the second two-week period begins at midnight on August 21, 1994, etc.

1.3 This protocol may be replaced at any time by EPA with different instructions for selecting samples for analysis under the 10% independent analysis option, or for shipping samples to EPA.

1.4 EPA may issue special instructions for selecting samples for analysis or shipping to EPA for any specific refiner, refinery, importer, or independent lab that differ in whole or in part from the instructions contained in this protocol, and if such special instructions are issued they must be followed instead of the instructions contained in this protocol.

1.5 Definitions:

RFG - reformulated gasoline
RBOB - reformulated gasoline blendstock for oxygenate blending

2.0 Identify Samples for the Current Analysis Cycle.

2.1 Identify each sample of RFG or RBOB collected during the preceding two-week period, and the refiner or importer assigned batch identification number for each sample.

2.2 Add any samples carried over from a prior analysis cycle, from 3.2 and 3.4.1.

2.3 Order the samples from the preceding two-week period, plus any carry over samples, in chronological order using the batch identification number for each sample.

3.0 Determine the Number of Samples to be Analyzed.

3.1 The number of samples that must be analyzed for the current analysis cycle is the number of samples identified under step 2.0 that is evenly divisible by ten.

3.2 Any remainder from this division is the number of samples that must be carried over to the subsequent analysis cycle. Any carry over samples must be those with the largest batch identification numbers.

For example, if the number of samples identified under step 2.0 is thirty seven, with batch numbers 4321-54321-95-002534 through 4321-54321-95-002570, the number of samples that must be analyzed in the current analysis cycle is three, and seven samples must be carried over to the subsequent analysis cycle. The specific samples that must be carried over are those seven with the largest batch identification numbers, or samples 4321-54321-95-002564 through 4321-54321-95-002570.

3.3 To the extent any sample carry over would result in a sample being retained by the independent lab for more than 30 days, this protocol constitutes EPA's request under § 80.65(f)(3)(ii) to retain the sample for more than 30 days. This additional sample retention request is for the length of time until the sample is not carried over to a subsequent analysis cycle, but for a maximum of 180 days.

3.4 Case Where Number of Samples is Less than Ten

3.4.1 If the number of samples identified under step 2.0 is less than ten, then all samples should be carried over to the subsequent analysis cycle.

3.4.2 If, however, the number of samples identified under step 2.0 is less than ten, and any sample carry over would result in a sample being retained for more than 180 days, then one sample must be analyzed from the number, and none of the samples would be carried over to the subsequent analysis cycle.

4.0 Identify Which Samples to Analyze

4.1 Identify the beginning point for using the Random Number Table at 4.2 for the current analysis cycle.

4.1.1 Identify the last two digits from the closing point for the Dow Jones Industrial Average as reported in the Wall Street Journal for the first day the New York Stock Exchange is open following the close of the preceding two-week period.

For example, for the two-week period ending at midnight on Sunday, August 20, the relevant two digits would be the last two digits for the close for the Dow Jones Industrial Average for Monday, August 21, as reported in the Wall Street Journal for Tuesday, August 22. If this Dow Jones Industrial Average close is 3,741.06, the relevant two digits would be 06.

4.1.2 The beginning point for the Random Number Table at 4.2 for the current analysis cycle is the row number (from Column A of Table 4.2) that corresponds to the number identified under 4.1.1.

Using the example from 4.1.1, the applicable row number would be 06, and the first random number would be 27.

4.2 Random Number Table

Column		Column		Column	
<u>A</u>	<u>B</u>	<u>A</u>	<u>B</u>	<u>A</u>	<u>B</u>
00	60	39	91	78	65
01	77	40	95	79	29
02	38	41	01	80	64
03	16	42	02	81	57
04	45	43	76	82	59
05	39	44	79	83	83
06	27	45	19	84	10
07	93	46	11	85	52
08	97	47	88	86	53
09	37	48	73	87	30
10	06	49	43	88	48
11	18	50	74	89	69
12	98	51	12	90	24
13	05	52	31	91	62
14	92	53	85	92	99
15	72	54	94	93	51
16	71	55	35	94	56
17	87	56	40	95	36
18	20	57	55	96	08
19	41	58	86	97	14
20	00	59	34	98	07
21	78	60	22	99	44
22	33	61	46		
23	61	62	89		
24	75	63	70		
25	25	64	50		
26	54	65	03		
27	80	66	09		
28	32	67	67		
29	17	68	42		
30	15	69	82		
31	63	70	84		
32	04	71	96		
33	21	72	28		
34	90	73	66		
35	68	74	49		
36	58	75	23		
37	13	76	26		
38	47	77	81		

4.3 For each sample for the current analysis cycle under 2.0, excluding any samples carried over to the subsequent analysis cycle under 3.2 or 3.4.1, identify the last two digits of the batch identification number.

This process is illustrated in the following table:

If the batch number is:	The last two digits are:
4321-54321-95-002533	33
4321-54321-95-002593	93

4.4 Compare the two digit number from Column B of the Random Number Table at the beginning point identified under 4.1.2 (the first random number) with each of the two digit sample numbers identified under 4.3.

4.5 If the first random number matches any sample number, this sample is identified as a sample for analysis. If the random number matches more than one sample number, only the sample with the lowest batch identification number is identified as a sample for analysis.

4.6 If the first random number does not match any sample number, then move to the next number in the Random Number Table, and repeat the process described under 4.5.

In the example under 4.3, there is no match for the first random number (27), but there is a match for the second random number (93), and sample number 4321-54321-95-002593 would be identified for analysis.

4.7 Continue this process until the number of samples identified for analysis equals the number under 3.1 or 3.4.2.

5.0 Analysis of Identified Samples

5.1 Proceed to analyze each sample identified under 4.0 as specified under § 80.65(f)(1)(ii)(C).

5.2 If a sample to be analyzed is of RBOB, the sample first must be blended with the

applicable amount and type of oxygenate. The following chart specifies this oxygenate blending with RBOB:

<u>RBOB Type</u>	<u>Oxygenate Type</u>	<u>Oxygen Volume</u>
Any-Oxygenate	Ethanol	2.0 wt%
Ether-Only	MTBE	2.0 wt%
Any-Renewable-Oxygenate	Ethanol	2.0 wt%
Renewable-Ether-Only	ETBE	2.0 wt%
Non-VOC-Controlled-Renewable-Ether-Only	ETBE	2.0 wt%
Refiner-Specified	¹	²

This requirement to blend RBOB with oxygenate applies to refiners and importers who are using both the 10% independent analysis option under § 80.65(f)(1)(ii) and the 100% independent analysis option under § 80.65(f)(1)(i).

6.0 Shipment of Samples to EPA

6.1 Quality Assurance Samples

For purposes of quality assurance oversight, a portion of certain samples must be sent to EPA, under § 80.65(f)(3)(iv), at the frequencies specified in this item 6.1. This requirement applies to refiners and importers who are using both the 10% independent analysis option under § 80.65(f)(1)(ii) and the 100% independent analysis option under § 80.65(f)(1)(i). EPA may specify a different frequency for sending quality assurance samples to EPA for any refiner, refinery, importer, or independent lab, and if such different frequency is specified it must be followed.

6.1.1 Refiners and Importers Using the 10% Independent Analysis Option

6.1.1.1 In the case of samples identified for analysis under 4.0, for each thirty-third sample that is analyzed for each refinery or importer a portion of the sample must be sent to EPA.

6.1.1.2 In the case of samples that are not identified for analysis under 4.0, each thirty-third sample that is collected for each refinery or importer but that is not analyzed by the independent lab must be sent to EPA.

6.1.2 Refiners and Importers Using the 100% Independent Analysis Option

For every thirty-third sample that is analyzed for each refinery or importer, a portion of the sample must be sent to EPA.

6.2 Samples That Violate Applicable Standards

¹ The oxygenate specified in the refiner's instructions, or if more than one oxygenate is allowed, from the following list of oxygenates the first that is allowed by the refiner's instructions: ethanol, MTBE, ETBE, any other specified oxygenate.

² The volume specified in the refiner's instructions, or if a range is specified, the minimum vol% oxygenate allowed.

6.2.1 In the case of refiners or importers who are using the 100% independent analysis option, a portion of each sample that violates an applicable per-gallon standard must be sent to EPA.

6.2.2 The applicable standards are those specified under § 80.41. In the case of parameters being met on a per-gallon basis, the per-gallon standards are the applicable standards. In the case of parameters being met on an average basis, the per-gallon minimums and maximums are the applicable standards.

6.3 Shipping of Samples

6.3.1 Each sample sent to EPA must be sealed in containers and transported in accordance with the procedures specified in Appendix D to 40 CFR Part 80, and identified with the independent lab's name and registration number and the sample information specified in § 80.65(f)(3)(i).

6.3.2 The quantity of sample that must be sent is: in the case of samples that have been analyzed by the independent lab, the entire volume remaining following the laboratory analysis which should be a minimum of one pint; and in the case of samples that have not been analyzed by the independent lab, the entire volume that is collected by the independent lab, or a minimum of one quart.

6.3.3 Samples identified for shipping to EPA under 6.1 or 6.2 must be sent to EPA via an overnight package service to:

United States Environmental Protection Agency
Motor Vehicle and Fuels Emissions Laboratory
Fuels and Chemicals Analysis Branch
2565 Plymouth Road
Ann Arbor, Michigan 48105
(313) 668-4200

2. **Question:** When does the independent sampling and testing requirement begin?

Answer: The independent sampling and testing requirements apply to each batch of RFG that is produced or imported, unless an in-line blending waiver has been obtained. As a result, the independent sampling and testing requirements begin for any refiner or importer when the first batch of RFG is produced or imported during the Fall of 1994, in preparation for bringing terminals up to the RFG standards by December 1, 1994.^(7/1/94)

3. **Question:** Is a lab independent if any refiner has an interest in the lab?

Answer: Section 80.65(f)(2)(iii) specifies the criteria for independence for labs, and states that the laboratory must not be operated by any refiner or importer, the laboratory must be free from any interest in any refiner or importer, and the refiner or importer must be free from any interest in the laboratory. These independence criteria mean a lab would not be considered independent if any refiner or importer operates the lab, but that another refiner may have an interest in the lab.^(7/1/94)

4. **Question:** May an independent lab use the refiner's testing equipment? May the independent lab set up its lab on property that is owned by the refiner? May the independent lab use the refiner's facilities for storing gasoline samples?

Answer: In order to ensure independence, the independent lab must operate in a manner that is completely separate from the refiner. This means that, in fulfillment of the independent sampling and testing requirements, the independent lab may not use the refiner's testing equipment, may not operate its

own testing equipment if set up on the refiner's premises, and may not store gasoline samples on the refiner's premises.^(7/1/94)

5. Question: Is a laboratory considered to be "independent" under the independent sampling and testing requirements and the gasoline quality survey provisions, if the company that operates the laboratory also is a refiner who produces conventional gasoline only?

Answer: The independent sampling and testing requirements of § 80.65(f)(2)(iii) and the gasoline quality survey provisions of § 80.68(c)(13)(i) each require that the sampling and testing must be carried out by a laboratory that is independent of any refiner or importer. Section 80.65(f)(2)(iii)(A) specifies that in order to be independent the laboratory "shall not be operated by any refiner...", and § 80.68(c)(13)(i)(A) specifies that in order to be independent "[t]he surveyor shall not be an employee of any refiner or importer."

Both of these regulatory provisions relate to RFG only, however, and have no application to refiners or importers who produce or import conventional gasoline only, or to areas that are outside any RFG covered area where conventional gasoline may be sold. As a result, EPA interprets the cited regulatory provisions as referring only to refiners or importers who produce or import RFG. As a result, a refiner or importer who produces or imports conventional gasoline only, and who produces or imports no RFG or RBOB, could be considered independent for purposes of the independent sampling and testing, and gasoline quality survey, requirements.

This interpretation of "independence" would not apply in the case of a corporation if any RFG is produced or imported anywhere within a common corporate structure. Thus, if a parent corporation has a subsidiary corporation that is refiner or importer that produces or imports RFG, no other subsidiary corporation of that parent could be considered "independent."^(8/29/94)

6. Question: For the purposes of the RFG sampling and testing requirements under § 80.65(e) and (f), may a refiner use the option under which the independent lab samples and tests 100% of the batches for some parameters, and use the option under which the refiner tests 100% of the batches and the independent lab samples 100% of the batches and tests 10% of the batches for other parameters?

Answer: Refiners and importers may not use the 100% independent lab analysis option for certain parameters and the 10% independent lab analysis option for other parameters, but must use the same option for all RFG parameters.

However, a refiner or importer using the 10% independent analysis option may use another lab, including the refiner's or importer's designated independent lab, to perform analyses that are the responsibility of the refiner or importer provided the substitute lab properly performs the testing. In any case where a refiner or importer uses a substitute lab, the refiner or importer remains responsible for the proper conduct of the analyses, and for meeting all requirements for reporting test results to EPA.^(7/1/94)

7. Question: In the case of a refiner or importer using the 100% independent analysis option, must the refiner or importer conduct any sampling or testing of RFG in addition to that performed by the independent lab?

Answer: A refiner or importer using the 100% independent analysis option must use the test results from the designated independent lab as the basis for all RFG reports to EPA. The RFG regulations do not prohibit a refiner or importer using the 100% independent analysis option from also performing other sampling and testing, nor from having other sampling and testing performed by another

lab.³ Such other test results may not be used by the refiner or importer to show compliance with the RFG standards, however.(7/1/94)

8. Question: If an independent lab temporarily cannot run a required test, may the independent lab use a substitute lab for the test until the independent lab regains its testing capacity? May a refiner use one independent lab to collect samples at a refinery, and another independent lab to analyze those samples? If a second lab is used, must the primary independent lab notify EPA of the role of the second lab?

Answer: An independent lab may use a second lab to collect samples or perform required tests, provided that: (1) the second lab is independent as defined in § 80.65(f)(2)(iii); (2) the primary independent lab is responsible for the quality of work performed by the second independent lab; and (3) the primary independent lab remains responsible for receiving all communications from EPA and submitting all reports to EPA. If a second independent lab is used, there is no requirement to report this fact to EPA, but the primary independent lab should retain documents to support the manner in which the sample collection and analyses were performed. Such documents then would be available, at the time of the independent attest engagement or EPA audit, to document the proper completion of the independent sampling and testing requirements.(7/1/94)

9. Question: Must a refiner identify a single independent lab for each refinery?

Answer: Yes. Although an independent lab may use a substitute lab for certain tasks, a refiner is required to name a single independent lab for each refinery. It is this independent lab with which EPA will communicate regarding the independent sampling and testing program, and who must submit all reports to EPA. A refiner that operates more than one refinery may, however, use the same independent lab for each refinery.(7/1/94)

10. Question: Must the independent lab use the same brand and model of equipment as the refinery lab?

Answer: Both the refiner's and the independent lab must use the RFG analyses methods specified in § 80.46, but this section does not specify particular brands or models for the testing equipment.

Note that in the case of oxygen and aromatics, alternative test methods may be used until January 1, 1996. Nevertheless, EPA believes there is a strong incentive for a refiner to select an independent lab that is able to closely correlate with the refiner's lab, and that this correlation concern probably would result in a refiner selecting an independent lab that uses the same oxygen and aromatics test methods as the refiner's lab.(7/1/94)

11. Question: In the case of refiners or importers using the 10% independent analysis option, will EPA evenly distribute the analyses that must be performed over the year, or is it possible EPA will concentrate the entire 10% during a short time period?

Answer: EPA intends to evenly space through the year the 10% of the samples identified for analysis under the 10% independent analysis option, although the specific batches selected for independent analysis each week (or every other week) will be selected randomly. There could be cases,

³ The testing requirement at § 80.65(e)(2), that includes provisions for reconciling testing "conducted by the refiner or importer and by an independent laboratory..." refers to refiner or importer testing conducted under the 10% independent analysis option, and not to the 100% independent analysis option.

however, where EPA would direct an independent lab to analyze more than 10% of the samples from a particular refinery or importer, to be offset later by requests for analysis of less than 10% of the samples from that refinery or importer. Over the course of each year, though, the total number of analyses identified for each refinery or importer will not exceed 10%.^(7/1/94)

12. **Question:** In the case of refiners or importers using the 10% independent analysis option, if the independent lab analyses a particular sample before receiving notification from EPA that this sample should be analyzed, will the prior analysis meet the independent analysis requirement?

Answer: Yes.^(7/1/94)

13. **Question:** Are independent labs required to report to EPA, the refiner, or both? What are the reporting requirements for independent labs in the case an independent lab's analysis shows gasoline does not meet relevant RFG standards?

Answer: Under § 80.65(f)(3)(iii) refiners and importers are required to have their independent labs report directly to EPA on a quarterly basis. There is no requirement that independent labs must report to the refiner or importer for whom they are conducting sampling and testing. Nevertheless, EPA expects that independent labs normally will report the results of their analyses to the refiner or importer, so these parties will know if their analyses results are corroborated, and if not corroborated, so these parties may arrange for secondary independent lab analyses and take corrective actions if necessary.

A refiner or importer may not release RFG from the refinery or import facility until the refiner or importer has test results which demonstrate the RFG meets all applicable standards.⁴ As a result, in the case of a refiner or importer using the 100% independent lab analysis option - where the refiner or importer relies only on the independent lab's analyses - the refiner or importer would have to receive the independent lab's test results before the RFG in question could be released from the refinery or import facility. A refiner or importer using the 100% independent lab analysis option also would need the independent lab's test results so the refiner or importer could file its quarterly reports to EPA, and averaging reports to EPA in the case of standards that are being met on average.

In the case of an analysis by an independent lab that shows an RFG batch does not meet applicable RFG standards, under either the 10% or the 100% independent analysis options, EPA believes the independent lab should immediately notify the refiner or importer so that party may take corrective actions. Such a situation would exist, for example, if a sample is found by the independent lab to contain in excess of 1.300 volume percent benzene (or a lesser benzene content if there has been a benzene ratchet); or if a sample is found to contain in excess of 1.000 volume percent benzene if the refiner or importer is meeting the benzene standard on a per-gallon basis.

The independent lab's non-compliant analysis result would be reported to EPA as part of the normal quarterly report to EPA, and there currently is no requirement that independent labs must report such instances to EPA prior to the quarterly report. Nevertheless, EPA intends to monitor this aspect of the independent sampling and testing program, and may modify the reporting requirements in this regard in the future if it appears necessary in order to ensure appropriate correction of violations.^(7/1/94)

14. **Question:** What are the requirements for reporting to EPA in the case of an independent lab that conducts sampling and testing that is unrelated to the independent sampling and testing requirements that

⁴ Under the simple model, refiners and importers may release RFG after having test results only for oxygen and benzene, and RVP in the case of VOC-controlled RFG.

apply for refiners or importers, such as quality assurance sampling and testing for a downstream pipeline or terminal?

Answer: There is no requirement that the results of downstream quality assurance sampling and testing must be reported to EPA. This is true both in the case of quality assurance sampling and testing by downstream parties such as pipelines or terminals, and in the case of quality assurance sampling and testing carried out by branded refiners or importers over their downstream branded operations. The conduct of quality assurance sampling and testing programs, and the actions that are appropriate when violations are found through such a program, are discussed in the Remedies and Liability/Defenses Sections of this document.^(7/1/94)

15. **Question:** Section § 80.65(e)(2) contains a mechanism for identifying the test result a refiner or importer must use if the independent lab's test result does not corroborate the refiner's or importer's test result. Does this mechanism apply in a case where the independent lab's test result fails to corroborate the refiner's or importer's test result for a particular parameter, but where both test results are within the applicable maximum level for that parameter?

Answer: The mechanisms specified in § 80.65(e)(2)(ii), for instances where a refiner's or importer's RFG test result is not corroborated by the independent lab's test result, apply whenever there is such a non-corroboration. There is no exception in a case where both the refiner's or importer's test result and the independent lab's test result are within the applicable maximum level for that parameter. If the standard at issue is being met on average, the mechanism in § 80.65(e)(2)(ii) will identify the value for the parameter the refiner or importer must use in its compliance calculations. If the standard at issue is being met on a per-gallon basis, the question is whether the parameter meets the per-gallon standard, and the cited mechanism will resolve that question.^(7/1/94)

16. **Question:** Can EPA provide a range for total oxygen content for use under § 80.65(e)(2)(i)?

Answer: Section 80.65(e)(2)(i) provides a table with ranges for fuel properties to be used in comparing the refiner's or importer's test results to the test results obtained from the independent laboratory. Although a range for total oxygen content is not included in this table, a range of 0.1 wt% may be applied for total oxygen under § 80.65(e)(2)(i). This range for weight % oxygen would be in addition to, and not instead of, the ranges listed in § 80.65(e)(2)(i). For example, if an oxygen volume % was outside the range, the provisions of § 80.65(e)(2)(ii) would apply, even if the weight % was within the 0.1% range. EPA will address this in an appropriate rulemaking.^(8/15/95)

17. **Question:** May a refiner use the same independent lab to satisfy the RFG independent sampling and testing requirements and to conduct sampling and testing needs that are unrelated to the RFG requirements (e.g., internal quality assurance or custody transfer sampling and testing)?

Answer: Yes.^(7/1/94)

18. **Question:** Is independent sampling and testing required of oxygenate blenders?

Answer: A party who meets the definition of oxygenate blender is not required to have the gasoline it produces sampled or tested by an independent lab. However, an oxygenate blender is required to sample and test the gasoline it produces: every-batch sampling and testing in the case of terminal storage tank oxygenate blending, and periodic sampling and testing at specified frequencies in the case of truck splash blended oxygenate. This oxygenate blender sampling and testing requirement could be met if performed by an independent lab, but an independent lab is not required. The sampling and testing requirements for oxygenate blenders are discussed in the Downstream Oxygen Blending Requirements Section of this document.^(7/1/94)

19. **Question:** Is independent sampling and testing required of terminals that supply RFG?

Answer: The only parties who are required to meet the independent sampling and testing requirements are refiners and importers. A party that meets the definition of distributor or reseller, such as a terminal, therefore, is not required to meet the independent sampling and testing requirements. In order to establish a defense to violations of the RFG standards for which it may be presumptively liable, however, a distributor must conduct a quality assurance program of sampling and testing. This quality assurance sampling and testing program could be conducted by an independent lab, but an independent lab is not required. The quality assurance sampling and testing defense provisions are discussed in the Liability/Defenses Section of this document.^(7/1/94)

20. **Question:** Is independent sampling and testing required of a refiner who has an in-line blending program?

Answer: Refiners who produce RFG using computer controlled in-line blending, and who have received an exemption from EPA from independent sampling and testing, are not required to conduct independent sampling and testing of RFG produced with this blending operation. The issues associated with in-line blending waivers from independent sampling and testing are discussed in the In-Line Blending Waivers Section of this document.

A refiner who produces RFG using in-line blending, but who does not have an exemption from independent sampling and testing from EPA, must meet the independent sampling and testing requirements. In such a case, however, EPA believes it is unlikely the refiner could meet all the requirements that apply to the production of RFG unless all the gasoline produced using the in-line blender is available for sampling and testing in storage tanks at the refinery before being shipped from the refinery. This tank collection gasoline is necessary so the refiner is able to meet the requirement that it have test results for a batch of RFG before releasing the RFG from the refinery. Tank collection also is necessary so the independent lab is able to collect a representative sample for the entire batch.

A sample collected by the refiner or by an independent lab at any single point in the blending process would not necessarily be representative of portions of that batch that were produced prior to, or subsequent to, the moment the independent sample was collected. As a result, a pipeline spot sample collected during an in-line blending operation would not satisfy the requirement that the refiner must have test results in advance of release of RFG unless the entire batch is held at the refinery until the refiner has in hand a test of the entire in-line blended batch. This entire batch sample could be a composite over the entire in-line blend, but more likely would be a sample from the storage tank, or storage tanks, where the in-line blended RFG is collected.

With regard to the independent sampling and testing requirement, conceivably the independent lab could collect a composite sample of the entire blend, but this would require the independent sampler to use its own compositor equipment, to be present during the entire blending operation in order to ensure the compositor functions properly, and to collect and analyze additional spot samples to verify the composite sample. In addition, the independent lab would have to independently establish the volume of the in-line blended batch. EPA is unaware of any valid way an independent lab can establish RFG batch volume, except through measurement in a storage tank.

As a result, EPA believes the only option available for a refiner using in-line blending to produce RFG who does not have an exemption from EPA from independent sampling and testing, is to collect the RFG produced using the in-line blender in a storage tank (or storage tanks) located on the refinery premises. The refiner then could certify the RFG in each storage tank as a batch, and have the independent lab collect a sample from each storage tank in the same manner as tank-blended RFG.^(7/1/94)

21. **Question:** Explain the volume determination requirement for independent labs.

Answer: Section 80.65(f)(3)(i)(B) requires the independent lab to determine the volume of each RFG batch that is sampled. EPA expects the independent lab will determine the volume of a RFG batch in the same manner gasoline volumes currently are determined for commercial transactions, using standard industry methods such as ASTM standard D 1085, "Method of Gaging Petroleum and Petroleum Products." (This same method also is referenced by API as standard 2545, and by ANSI as standard 211.196.)

The independent lab's volume determination, of the volume of gasoline contained in the storage tank, would be the total production volume of the RFG batch. The refiner's report to EPA for RFG batch volume, however, is of the volume of RFG produced and shipped. The refiner reports the volume shipped in order to avoid double counting the RFG remaining in the storage tank when blending begins for the subsequent batch (i.e., the tank heel). This difference between the reported RFG batch volume for the independent lab (production volume) and the refiner (shipped volume) means the two volume reports normally will not match.

While it would be preferable for the independent lab's and the refiner's or importer's volume reports to match, such correlation currently is not anticipated. In order for the independent lab to be able to report the shipped volume for an RFG batch, which would match the refiner's batch volume, the independent lab would have to reinspect the tank subsequent to all gasoline movements from the tank in question. EPA believes the costs associated with such additional independent inspections are not warranted. The independent lab's report of production volume for an RFG batch serves an appropriate oversight function, because it constitutes an outside bound on the volume the refiner could report for the batch. Nevertheless, EPA intends to monitor the effectiveness of this portion of the independent sampling and testing program, and may modify this provision if greater correlation in volume measurements by refiners and independent labs is necessary.^(7/1/94)

22. **Question:** What is the responsibility of the independent lab in determining whether a tank of RFG meets the definition of "batch," i.e., is homogeneous with regard to the RFG properties?

Answer: The independent sampling and testing provisions require the independent lab to collect a separate sample from each batch of RFG. "Batch of reformulated gasoline" is defined at § 80.2(gg) as "a quantity of reformulated gasoline which is homogeneous with regard to those properties which are specified for reformulated gasoline certification." As a result, when an independent lab identifies a sample it collects as being representative of the gasoline contained in a batch of RFG, that lab is independently representing that the gasoline being sampled is homogeneous with regard to the RFG properties - that the tank is fully mixed and is not stratified. EPA expects the independent lab to use its best professional judgment in determining the procedures that are necessary in order to classify the gasoline in a storage tank as being fully mixed. For example, if the independent lab's normal practice is to analyze the gravity of top/middle/lower samples to determine tank mixing, EPA believes the independent lab should follow that practice with regard to the RFG independent sampling and testing requirements.^(7/1/94)

23. **Question:** In a case where an independent lab collects more than one sample from a batch (e.g., top/middle/lower samples), how many samples must be retained by the independent lab?

Answer: For EPA's purposes, an independent lab must collect a single representative sample for each batch of RFG, and it is this single sample that should be analyzed and retained for transfer to EPA if necessary. If more than one laboratory will be analyzing the properties of a batch, then the independent lab should collect two separate samples rather than splitting one sample after collection. Split samples are vulnerable to loss of light ends unless transfer is carefully performed according to the procedure outlined in Appendix E, section 8.1 and figure 1.1.

When collecting duplicate samples take care to assure consistency. For example, unless a storage tank is fully mixed, multiple running samples collected from that tank can vary according to retrieval rates, dwell at the bottom point, and consistency of the measurement of the bottom point. See the Sampling/Testing - Sampling Section, Question 1, for a discussion of the sampling methods that are appropriate for RFG.

In the case of additional samples collected by the independent lab, for example, to establish that a storage tank is fully mixed and is not stratified, there is no requirement that such samples must be retained. The independent lab should keep documents that reflect any sampling and testing that was performed to establish the effectiveness of tank mixing, however, in case questions arise about the quality of gasoline from a particular batch or to support the quality of the independent lab's work in the case of an EPA audit.^(7/1/94)

24. **Question:** What volume of gasoline should a sample collected by an independent lab contain?

Answer: EPA believes that a one quart sample is adequate.^(7/1/94)

25. **Question:** If EPA requests that an independent lab supply a portion of a sample to the EPA lab, what volume of gasoline should be sent to EPA?

Answer: When EPA requests a sample from an independent lab, the independent lab should send EPA the entire one quart sample if the lab has not analyzed the sample. If the sample is one the independent lab has analyzed, the independent lab should send EPA the entire remaining volume.^(7/1/94)

26. **Question:** When the independent lab samples a batch of RFG, they are to "determine" blending times, batch volumes, tank numbers, and grade. Which of these determinations must be independently made by the independent lab, and which can be obtained from the refiner or importer?

Answer: The independent lab may rely on the refiner's or importer's representations with regard to the date and time the batch became finished RFG, and the grade of gasoline, if this reliance is warranted in the exercise of the independent lab's best professional judgment. This reliance would, of course, not be warranted where the independent lab has reason to believe the information supplied is incorrect. The independent lab is required to independently establish the identification number of the storage tank, and the batch volume as discussed in Question 19 of this Section.^(7/1/94)

27. **Question:** Section 80.74(a)(2)(ii) requires "the identification of the person who collected the sample and the person who performed the testing." In the case where samples are taken and analysis performed by an independent testing company, would it be sufficient to identify the independent testing company in place of the sampler and tester?

Answer: Yes. ^(4/18/95)

28. **Question:** Are independent labs required to submit quality parameter data or the % reduction performance results to EPA?

Answer: The regulations require parameter comparisons and not emissions performance reduction comparisons. See § 80.65(f)(3)(iii)(B)(1). ^(11/10/97)

29. **Question:** Are there any plans for laboratory certifications?

Answer: No. It is the responsibility of each refiner to ensure the quality of the independent laboratory it is using.^(7/1/94)

C. IN-LINE BLENDING

1. **Question:** Is EPA making any allowances for refiners that utilize a computer-controlled in-line blending operation?

Answer: EPA is allowing an alternative to the independent sampling and analysis requirement for certain refiners that produce RFG using computer-controlled in-line blending equipment. This option would be appropriate only in the case of relatively sophisticated in-line blending operations, where sufficient gasoline quality checks and cross-checks occur to ensure that fuel produced in-line meets the specifications for RFG. Under this alternative the refiner would have an independent audit conducted of the documents generated during the course of such in-line blending as confirmation of the refiner's reported batch properties and volume.

In order to use this option, a refiner is required to petition EPA to allow its use for a particular in-line blending operation. EPA will evaluate the petition on the basis of the particular equipment and procedures in place at the petitioner-refiner's refinery. The types of factors which are relevant to EPA's review of the petition are specified in the regulations at § 80.65(f)(4).

EPA believes this alternative for certain in-line blending operations is appropriate because of the difficulty of obtaining a representative sample of gasoline that has been produced through in-line blending, and because there can be sufficient confidence in the results from a paper audit of such an operation. EPA expects that a sophisticated in-line blending operation would have to have multiple safeguards to monitor and record the properties of the blend on an on-going basis to qualify for the exemption.^(7/1/94)

2. **Question:** Is there a deadline for the submittal of a petition requesting an exemption from the independent sampling and testing requirements?⁵

Answer: There are no time frames for or limitations in the regulations or the statute for submitting or reviewing in-line blending petitions. However, since EPA will need adequate time to review and resolve any outstanding issues before acting on a petition for exemption, we suggest that refiners that wish to apply for the exemption, submit their petitions as soon as possible if they plan to be exempt from the independent sampling and testing requirements at the beginning of production of RFG in the Fall of 1994. Until a petition is approved, all RFG and RBOB produced by a refiner is subject to the independent sampling and testing requirements under § 80.65(f). ^(7/1/94)

3. **Question:** The petition process referred to in § 80.65(f)(4) references RFG. Will in-line blenders of RBOB also be allowed to become exempt from the independent sampling/testing requirements through EPA approval of a petition?

Answer: Yes, refiners who blend RBOB using a computer-controlled in-line blending process are allowed to petition for exemption from the independent sampling and testing requirements.^(7/1/94)

4. **Question:** What is the definition of "computer-controlled in-line blending"?

Answer: The regulations do not define computer-controlled in-line blending. Generally, EPA will consider an in-line blending operation to be adequate if it has sophisticated computer monitoring and recording of all relevant data generated during the batch. These systems would also include computer control and adjustment of the blend properties during production depending on other parameters. In-line

⁵With regard to in-line blending petitions, answers provided in this section pertain only to simple model RFG and not complex model RFG.

blending systems vary with regard to degree of automation. As a result, the sufficiency of any particular system will have to be evaluated on a case-by-case basis.^(7/1/94)

5. **Question:** Does in-line blending of conventional gasoline require an exemption?

Answer: Conventional gasoline does not require independent sampling and testing and, therefore, there is no need to obtain an exemption. However, the properties of both reformulated and conventional gasoline are required to be determined by the methods specified in § 80.46. Please refer to the Sampling and Testing Section of this document.^(7/1/94)

6. **Question:** What defines a batch for refineries utilizing in-line blending?

Answer: Section 80.2 of the regulations defines a "batch" as "a quantity of reformulated gasoline which is homogeneous with regard to those properties which are specified for reformulated gasoline certification." For refiners who are exempt from the independent sampling and testing requirements, the batch identification number should be assigned at the point the refiner begins producing a stream of gasoline with a given set of parameters, which are representative of the composite sample. In some cases, where a large volume of gasoline is produced to the same specification, the refiner may wish to sample, test and report batches based on smaller quantities of gasoline as it is being shipped out.

However, refiners who in-line blend, and who have not been exempted from the independent sampling and testing requirements, must blend to a storage tank and meet the independent sampling and testing requirements for certifying RFG as specified in § 80.65(f).^(7/1/94)

7. **Question:** How does a refinery that in-line blends RFG generate a certificate of analysis (key RFG parameters) prior to shipment as required by the regulations?

Answer: For the simple model, refiners who petitioned for an exemption from the independent sampling and testing requirements are required to specify their reasonable basis for knowing that the fuel meets the standards for benzene and oxygen, and RVP in the case of VOC-controlled RFG, before the gasoline leaves the refinery. The on-line analyzers, coupled with the continuous measurement of component blend ratios and volumes, in approved in-line blending operations, are expected to provide an accurate characterization of the fuel during, and at the end of the blend. When the batch is complete, the composite sample will be tested to provide a report of the blend's certified properties. EPA has amended the final rule to allow exempted in-line blenders to release RFG in advance of receiving final test results.

However, refiners who in-line blend, and who have not been exempted from the independent sampling and testing requirements, must blend to a tank and meet the independent sampling and testing requirements for certifying RFG as specified in § 80.65(f).^(7/1/94)

8. **Question:** Does EPA intend to grant approval for in-line blending systems that do not have the opportunity for sampling and analysis prior to fungible mixing?

Answer: As discussed in the answer to question #7 above, samples taken for determining the certified properties of the fuel, and some analysis of the gasoline properties, must occur before the gasoline is fungibly mixed with other gasoline.^(7/1/94)

9. **Question:** For refiners that in-line blend and are exempt from the independent sampling and testing requirements, which test measurements are to be used for the certified fuel properties, the integrated readings from on-line analyzers and flow meters, spot samples, composite samples, or samples taken from storage tanks downstream of the blending process?

Answer: Generally, the results from the composite sample, tested using the methods specified in § 80.46 of the regulations, should be used. If more than one composite sample is taken during the blend and tested to determine compliance, or if the composite is tested more than once, an average of the test results must be used. The number of composite samples taken and the number of tests conducted on each sample should be the same for each batch (i.e., a refiner should specify in his petition how many analyses will be performed on a composite sample and must conduct the same number of tests on all batches produced). Data and test results from component tanks, on-line samples and spot samples would be used to control the blend properties and to corroborate composite sample results.

EPA will evaluate, on a case-by-case basis, proposals for using results from on-line analyzers or storage tank samples for certification of fuel properties, based on the particular equipment being used on-line and other relevant aspects of the particular in-line operation. Spot sample results cannot be used for certification, but are appropriate quality control/quality assurance measures to check and correlate the on-line analyses and/or composite results.^(7/1/94)

10. **Question:** Assuming that EPA approves the use of analyzers to certify in-line blended RFG, if an analyzer has maintenance problems during a blend such that it did not give results for 50% of the blend, can the refinery use spot samples to track the property? Is there a specific percent up-time that the EPA requires should analyzers be used to certify blends?

Answer: Proposals for using results from on-line analyzers for purposes of certifying a batch will be evaluated on a case-by-case basis. EPA has not established the amount of up-time required in order to qualify the on-line analyzer results for use in certification. However, in considering a proposal to use on-line analyzer results for certification, EPA expects that the proposal will include a back-up system and plan as part of the QC/QA program for dealing with outliers and analyzer failures.^(7/1/94)

11. **Question:** If a spot sample indicates the analyzers were off, can a sample from the transporting ship or truck in which the fuel is being shipped be used to certify the batch? Can this sample be taken when off-loading the fuel?

Answer: In the case of an approved in-line blending system, spot sample results should be used to correlate with the results from on-line analyzers. If a spot sample shows that the on-line analyzers are not properly monitoring the fuel parameters, then the refiner should act accordingly to bring the fuel back on spec. If a portion of a batch is shipped prior to the composite sample being tested, it is the refiner's responsibility to ensure that the fuel shipped out meets all requirements for RFG.^(7/1/94)

12. **Question:** When a portion of a batch is shipped to a customer while the batch is still being blended, assuming an approved in-line blending system, does the batch ID number for the shipping documents pertain to the portion shipped or to the whole batch?

Answer: The batch identification number is assigned to the total batch volume as is represented by the composite sample. Section 80.77 does not require refiners to include the batch identification number or total batch volume on the product transfer documents. The volume that is required in the product transfer document is the volume of gasoline being shipped out of the refinery. For more information, see the Product Transfer Document Section of this document.^(7/1/94)

13. **Question:** What is the relationship between a portion of a batch that is shipped during in-line blending and the remainder of that batch?

Answer: Both portions of the batch, i.e. the volume shipped and the remaining portion or portions of the total batch volume, are identified with the same fuel properties and the same batch identification number. The properties are determined from the analysis of the fuel in the compositor, a proportional

sample of the total batch.^(7/1/94)

14. **Question:** At an in-line blending facility, a portion of batch A is captured in an empty storage tank and not immediately shipped. Then a portion of batch C is added to that tank and the combined mixture is shipped. How do the records show compliance with reformulated gasoline regulations?

Answer: Batches A and C will be certified separately based on the results from the composite sample analyses for each of these batches (unless EPA has approved another method of sampling for a particular refiner). Since product transfer documents do not require that a batch number be assigned to each shipment, multiple batches of certified RFG can be commingled without regard for batch numbers (i.e, the resulting mixture will not be assigned a new batch number). As discussed in the answer to question #11 above, when the combined mixture is shipped, the product transfer document will identify the volume of the shipment, not the batch, and any other designations specified in § 80.77.^(7/1/94)

15. **Question:** In the case where RFG is in-line blended through a holding tank, should the compositor be located before or after the holding tank?

Answer: The regulations do not specify where the compositor should be located; however, the location of the compositor will determine what qualifies as the certified batch. The refiner should include the location of compositors in their petition for a waiver as stated in § 80.65(i)(7).^(7/1/94)

16. **Question:** Do all properties have to be analyzed on-line to get an exemption from the independent laboratory sampling and testing requirement?

Answer: No. However, EPA would prefer that in-line blending operations at least be capable of analyzing benzene, oxygen, and RVP on line. If the operation does not have the capability to analyze all properties on-line, the refiner must indicate in his petition how he intends to determine the fuel properties for those parameters not analyzed on-line, and provide sufficient cross-checks of the results from a composite sample to warrant an exemption from the independent sampling and testing requirements. In-line blending petitions will be evaluated on a case-by-case basis with regard to the operation's capability to analyze all properties on-line.^(7/1/94)

17. **Question:** Our computerized control system collects, calculates, and historizes data for blends and product movements. The data can include volumes, analyzer results, manually entered lab results, etc. Data is historized by writing a file to the equivalent of a personal computer hard disk. The data collected in the files will be used for reformulated fuels documentation. The file is protected such that only a person with a physical engineering key can unprotect the file. Is this acceptable data control to the EPA?

Answer: Data control and recording systems should be proposed in the exemption request as part of an overall quality control, record keeping and review plan. All data that is generated for the batch that is intended to form a basis for the RFG certification, must be recorded and retained in a secure manner so that the auditor will be able to review accurate data for the yearly in-line blending audits. We believe the refiner should provide reasonable security for all the data that is generated so as to retain uncompromised files and to restrict unnecessary and unauthorized access to those files. Limiting the number of persons who have access to the files is as important as who has access.^(7/1/94)

18. **Question:** In a computer-controlled in-line blending operation, adjustments to blending volumes and other blending parameters are made on an ongoing basis to keep the gasoline being blended on-spec. Normally, these adjustments are made automatically by a computer. However, some aspects of the blending operation must be placed in a manual mode when instrument problems arise. The operator is able to enter values (transfer volumes, blend volumes) in the case of such a manual mode operation. The computer records when manually-entered adjustments are made. Is this acceptable data control to the

EPA?

Answer: It would seem to be appropriate for the software to indicate when data are manually entered, who entered the data and when it was entered. This information should be recorded with the file for the batch and available for an audit. There should also be a procedure or method by which the data that were entered could be verified by some other documents available for an auditor. (7/1/94)

19. **Question:** For a refinery with an in-line gasoline blending exemption, can the annual in-line blending audit be conducted by the same attestation auditor as outlined under Subpart F of the RFG and Anti-dumping regulations? Must the auditor for an in-line blending operation meet the requirements for Attest Engagements at § 80.125?

Answer: An in-line blending exemption exempts a refiner from the independent sampling and testing requirements of § 80.65(f). As one of the conditions of the exemption, the refiner must carry out an independent audit program of its in-line blending operation.

Attestation engagements are different than, and do not take the place of, the in-line blending audits. Attestation engagements cover a broad range of records required under the reformulated gasoline and anti-dumping programs, as specified in Subpart F. They deal with production volumes, fuel properties reported for those volumes, and shipment documentation. The independent audits required for in-line blending operations, on the other hand, are narrowly focused on individual in-line blending systems that are unique for each location. Basically, the in-line blending audit must verify that for each batch, the reported batch properties are supported by secondary sources of test data; that in-line blending control and recordkeeping systems are being carried out as represented to the Agency in the petition for the exemption; and that the testing, cross checks and quality control being exercised over the operation allow the refiners to accurately predict the property values and volumes being reported for each batch.

Auditors who conduct in-line blending audits must meet the criteria specified in § 80.125(a) and/or (d), which require the auditor to be an independent certified public accountant, or, alternatively, an employee of the refiner, provided that such employee is an internal auditor certified by the Institute of Internal Auditors, Inc. ("CIA") and completes the internal audits in accordance with the Codification of Standards for the Professional Practice of Internal Auditing. However, because of the complexity of on-line measurements and estimates, many auditors who qualify for the attestation engagements may not have the technical qualifications to conduct in-line blending audits. The audit program for an in-line blending operation will require the refiner to use an auditor who both fulfills the requirements under § 80.125(a) and/or (d), and has expertise with in-line blending operations. (8/15/95)

D. COMPLIANCE ON AVERAGE

1. **Question:** In calculating the 1995 annual average for toxics, do we include December 1994 along with the twelve 1995 months?

Answer: You should include all gasoline that was produced in 1994 and 1995 and that was designated as RFG. (7/1/94)

2. **Question:** Based on EPA's comments in the July 1, 1994 Question and Answer Document, we are to include all 1994 batches designated as RFG in the calculation of our first year average toxics calculation. We interpret this to mean that RFG-designated batches shipped before December 1, 1994 will also be included for the purpose of generating benzene and oxygen credits. Please confirm that our interpretation is correct.

Answer: Your interpretation is correct. (11/28/94)

3. **Question:** Can a refiner complying on a per gallon basis take domestic delivery of a product from a refiner or an importer that meets per gallon or minimum/maximum standards for averaged gasoline but does not meet per gallon standards?

Answer: Yes.(7/1/94)

4. **Question:** With no set procedure for declaring per gallon/averaging, it appears a refinery has until the first quarterly report to make a decision. As long as per-gallon standards were met up to the point the first quarterly report is filed, and the refiner meets the gasoline quality survey requirements, the option would remain open to go averaging for the year. Is this acceptable?

Answer: It is true that EPA did not include in the RFG rule a process for regulated parties to notify EPA in advance of per-gallon versus averaging. As a result, the strategy described in the question would be appropriate.(7/1/94)

5. **Question:** For purposes of RFG compliance on average, can refiners treat closely integrated facilities operating in a single covered area as a single facility, or must compliance be achieved separately for each facility? Suppose the refinery operation consists of mixing blending components to produce finished RFG using tankage in multiple terminals in close proximity, the blender is meeting all refiner requirements. and the blender is the responsible party for record keeping, reporting, and compliance. Can the refiner/blender aggregate the operations at all the facilities used for compliance on average purposes or must he meet the standards separately at each terminal?

Answer: Under § 80.67(b)(1), refiners must meet all applicable averaged standards separately for each of the refiner's refineries (i.e., for each facility at which gasoline is produced.) This would include terminals at which RFG is produced through a blending process. However, under § 80.67(b)(3), an oxygenate blender may group "the averaged reformulated gasoline produced at facilities at which gasoline is produced for use in a single covered area." Therefore, whether the facilities producing RFG for a single covered area may be aggregated for purposes of compliance on average will depend on whether the operation is a refinery operation or an oxygenate blending operation.(11/21/94)

6. **Question:** Section 80.67(g) of the regulations describes the calculations that must be done in order to determine compliance with the averaged standards for reformulated gasoline and, in some instances, conventional gasoline. In calculating the Actual Total and Compliance Total a party multiplies volumes by either parameter values or the appropriate standards. In cases that involve parameters and standards that are expressed in terms of weight percent and parts per million (i.e. oxygen content and sulfur content) should a party also include the specific gravity in the calculation in order to adjust for differences in the densities of different batches of gasoline?

Answer: No. The calculations as written in section 80.67(g) of the regulations do not allow for an adjustment for density. While it is appropriate to use the specific gravity to adjust for density in calculating the content and average content of a parameter (as in sections 80.66 and 80.101(g)), it is not relevant for calculating the Actual Total and Compliance Total. The Actual Total and Compliance Total values are intended to allow the comparison, in the aggregate, of batch parameters with their respective standards. The Agency has chosen to weight by volume for all such compliance calculations and then compare the results.

EPA plans on reviewing section 80.67(g)'s method of determining compliance for parameters that are measured on a mass basis. If warranted, EPA will make appropriate changes in a future rulemaking.
(3/19/96)

7. **Question:** Can a refiner with more than one refinery transfer oxygen and benzene credits from one of

its refineries to another of its refineries?

Answer: If a refiner generates credits at one refinery, these credits could be used to offset a shortfall at another refinery through a transfer of credits meeting all conditions of § 80.67(h).^(7/1/94)

8. **Question:** The regulations and reporting requirements imply that credit trading for oxygen and benzene is allowed across nonattainment areas [and] not just within an area. Is that correct? Is there any geographic restriction with regard to benzene and oxygen trading?

Answer: Oxygen and benzene credits may be traded across RFG areas. However, all conditions specified in 80.67(h) must be met.^(7/1/94)

9. **Question:** Can a company which is both a refiner and importer transfer oxygen and benzene credits from its import operations to its refineries?

Answer: Yes, through a transfer of credits meeting all conditions of § 80.67(h).^(7/1/94)

10. **Question:** Can exports of high olefins, high benzene, and/or nil oxygen gasolines from the U.S. generate credits for the exporter?

Answer: No. Section 80.67(g)(6) provides that oxygen and benzene credits are generated if the actual total for the oxygen standard is greater than the compliance total, or if the actual total for the benzene standard is less than the compliance totals. Exported gasoline is not included in compliance calculations, and, as a result, has no impact on credit creation.^(8/29/94)

11. **Question:** Why must oxygen and benzene credits pass only from creator to user? Why can't a blender or importer buy credits in advance as a safety measure, and then sell or resell them if/when (within the averaging period) it is established that it has performed better than expected?

Answer: The regulations do not provide for the reselling of credits. However, there may be ways for businesses to provide some flexibility, such options to buy credits which extend to the end of the averaging period.^(8/29/94)

12. **Question:** Can oxygen and benzene credits be transferred from the RFG area where they are created to another RFG area?

Answer: Benzene and renewable oxygenate credits may be transferred from the refiner or importer who creates the credits to any other refiner or importer who would use the credits. Oxygen credits may be transferred from the refiner, importer, or oxygenate blender who creates the oxygen credits to any other refiner, importer, or oxygenate blender who would use the credits. Credits are not associated with any RFG covered area either when they are created or when they are used, so there is no restriction on credit transfers based on the specific RFG covered areas where the transferor or transferee refiner, importer, or oxygenate blender are located.^(10/3/94)

13. **Question:** What are the units for RFG credit trading?

Answer: The units for oxygen and benzene credit trading are the units required for calculating batch properties under §§ 80.66(d) and (e), i.e., wt%-gallons for oxygen, vol%-gallons for benzene. ^(4/18/95)

14. **Question:** Will a foreign refiner or blender, or an importer of RFG produced overseas, be given some kind of credit for plant emissions outside the United States?

Answer: No. The RFG regulations do not extend to foreign refineries.^(8/29/94)

E. SURVEYS

1. **Question:** If a refinery supplies averaged gasoline to an area which fails a survey, can the refinery during the following year opt to meet per gallon standards and thus avoid the ratcheted standards which would have been applicable to its averaged gasoline?

Answer: Yes. If a refinery opts to meet per gallon standards instead of averaging, ratcheted standards do not apply to that refinery even if the refinery had supplied averaged gasoline to the ratcheted area the previous year. Ratcheted standards apply only to averaged gasoline.^(7/1/94)

2. **Question:** Refiner A buys averaged RFG from refiner B and then sells it in NYC during a certain year. If NYC fails the survey for that year, which refiner must ratchet down the following year?

Answer: The refinery which has produced the gasoline and accounted for the gasoline in its averaging program is responsible for the gasoline. Therefore, if the gasoline is ultimately used in NYC and NYC is ratcheted, all of the averaged gasoline produced at refinery B, with one exception, must meet the ratcheted standards the following year. The exception is VOC-controlled gasoline produced at the same refinery for a different VOC-control area. In the case of ratcheted VOC standards for a covered area located in VOC Control Region 1, the adjusted VOC standards apply only to the averaged RFG for use in Region 1, and ratcheted standards for Region 2 apply only for gasoline for use in Region 2. (See section 80.41(q)(4).) (Of course, if Refinery A actually produces gasoline during the following year which is sold in NYC, then Refinery A must also meet the ratcheted standards for all of its averaged RFG.)

Refiner B, however, is responsible for quality control of its gasoline which must carry with it transfer documentation indicating that it will meet the minimum and maximum standards associated with the ratcheted area.^(7/1/94)

3. **Question:** A refinery produces averaged RFG which is mixed with other gasoline in a fungible system such as a pipeline or distribution terminal. A survey failure occurs in only one of many RFG areas served by the system. How does the refinery ascertain whether it must meet ratcheted standards for its averaged gasoline the following year?

Answer: In the case of a refinery which supplies averaged RFG to a fungible distribution system which, in turn, supplies RFG to a failed survey area, that refinery must meet ratcheted standards for all of its averaged gasoline the following year. Specifically, if any RFG area supplied by the system fails the survey, such failure would trigger ratcheted standards the following year for all averaged gasoline supplied to the system from any refinery. (Of course, in the case of VOC standards, ratcheting is on a Region-specific basis. See Survey Question 2 above.) The only exception to this would be a situation where a refinery can demonstrate that the gasoline it had supplied to a system was, in fact, distributed to a smaller number of areas. Typically, this would require that the gasoline be completely segregated and the ultimate destination(s) could be demonstrated. Of course, such a product would not actually be considered to be a "fungible" shipment.

In some cases, one fungible system is connected to a second system such as a separate second pipeline system which distributes, at least in some situations, material from the first system. If a refinery has supplied RFG to the first system, the refinery is not automatically responsible to meet ratcheted standards applied to areas serviced by delivery points of the second system. However, if it is a typical day-to-day business practice to distribute fungible gasoline directly from the first system into the second, then the refiner must assume responsibility for ratchets on the second system. Likewise, if it is known that RFG produced by a specific refinery has, in fact, been supplied to the second system, then that refinery

would have to meet ratcheted standards resulting from a failed survey of a delivery area on the second system. If distribution to the second system is unusual or not a typical day-to-day procedure, then the refiner does not have to automatically assume responsibility for survey failures along the second system. If EPA has specific knowledge that fuel is distributed to the second system, then, to avoid a ratchet of an area on the second system, it would be the responsibility of a fuel producer to demonstrate that its fuel did not, in fact, move to the second system.(7/1/94)

4. **Question:** Is there a bottom end to consecutive year "ratchets" in the RFG program should the annual compliance surveys continue to deem that a ratchet is necessary?

Answer: Generally, for those properties for which there is a maximum or minimum, there is an effective practical bottom (or top in the case of minimums) in the ratcheting process. This is true because, at some point, a maximum or minimum reaches the per gallon standard and the concept of averaging loses its utility. There would presumably be no good reason to average if the maximum (or minimum) of an averaged gallon of RFG was the same as the per gallon standard. Hence, the regulated parties would presumably switch to a per gallon requirement and the ratcheted standards would become irrelevant. For example, after three consecutive benzene ratchets, the maximum allowable benzene content for averaged RFG would decrease from 1.3 volume percent to 1.0 volume percent (0.1 percent per ratchet). The 1.0 volume percent level is equal to the per gallon standard.

Although not an exception to this view, section 80.41(o)(1) specifically states that "in no case shall the minimum oxygen content standard be greater than 2.0%."

In the case of toxics reduction requirements, there is no minimum or maximum. Thus, the average toxics reduction requirement increases by 1.0 percent for each ratchet and there is no formal "top" to this increase. Of course, there is likely a point where every averaging party would reach a practical "top" in that the standard would be so severe as to essentially require meeting the per gallon toxics reduction even for the averaged gallonage at the lowest toxics reduction level. However, from a practical standpoint, the ratcheted standard at which this occurs likely will vary for different regulated parties.(7/1/94)

5. **Question:** It may be the case that a refiner begins producing averaged RFG for January as early as the previous September. In this case, the refiner would not know if ratcheted standards (other than VOC or RVP) would apply to this "early" production, since ratcheted standards may not be known to apply or be announced by EPA until the first quarter of the following year. Thus a refiner would have to make a decision regarding per gallon vs. averaging 3-5 months prior to knowing what the average standard was going to be. Since severe economic penalties could result for lack of having an approved EPA target at the time of production, is this reasonable? Is the gasoline produced prior to announcement of a ratchet subject to the standard in place before the newly announced ratchet?

Answer: Much of this question assumes that gasoline produced during one year and used the following year must be accounted for when averaging for the following year. This is an incorrect assumption. The refiner must meet the standards in place when the RFG is produced and certified. The ratcheted average standards (and not maximums and minimums) would not apply to gasoline produced during the year of the survey failure that precipitated the ratchet, but only to that gasoline produced and certified as RFG during the year when the ratcheted standards are in place.

Ratcheted maximum and minimum standards do not apply until 90 days after announcement of a failure. Thus, leadtime issues should not be a problem in regards to maximums and minimums. Furthermore, the Agency will attempt to expedite the analysis and announcement of results of surveys and the Agency intends to make preliminary summary survey data available as it is produced throughout the year. This data should help to give an early picture of the possible chances of survey failures for non-

summer parameters.(7/1/94)

6. Question: Several covered areas which receive RFG from the same fungible system experience survey failures during a given year. (Or, alternatively, approved survey plans were not carried out in several cities receiving RFG from the same fungible system during a given year.) Would a refinery supplying averaged RFG to this fungible system be subject to one ratchet or multiple ratchets?

Answer: As is mentioned in Survey Question 3 above, special considerations exist for fungible systems. In the case of a fungible system supplying RFG to a ratcheted area, the ratchet applies to all refineries supplying fungible RFG entering that system, since this RFG may have gone to any city receiving gasoline from the system. If two (or more) areas receiving gasoline from the system are ratcheted, all refiners supplying fungible averaged RFG are subject to each ratchet. However, these ratchets are not "additive". If the standard is the same for each ratcheted city, averaged RFG meeting one area's ratcheted standards would likewise meet the other area's standards. On the other hand, if two (or more) areas receiving gasoline on a fungible system have been ratcheted to different standards (e.g., one area is subject to two consecutive yearly ratchets, but the other areas are not), then all refineries providing fungible averaged RFG to the fungible system are subject to the most severe of the ratcheted standards. Likewise, for a single refinery supplying averaged RFG to several different fungible distribution systems, all averaged RFG produced by that refinery is subject to the most stringent of the ratchets of any area on any of the distribution systems.

Failure to conduct an approved survey is tantamount to a survey failure and, therefore, the above answer applies in such situations.(7/1/94)

7. Question: Some refineries supply product to more than one distribution system. It is understood that ratcheted standards apply on a given fungible system. Is a ratchet to which a refinery is subject due to survey failures on one distribution system applied to averaged RFG produced by that refinery for another distribution system? If so, why would this RFG produced for the other distribution system also be subject to the same ratchet since the material for the second system (for example, a local truck loading rack) may be completely segregated at the refinery.

Answer: If any of a refinery's averaged RFG is subject to a ratchet, then all of that refinery's averaged RFG is subject to the same ratchet. (See section 80.41(q).) As was explained in previous RFG rulemaking notices, if the refinery was supplying averaged RFG to an area that failed a survey, that refinery's RFG potentially contributed to that survey failure. Therefore, all of that refinery's averaged RFG is subject to any ratchet resulting from a survey failure to which it has potentially contributed. The survey and ratchet provisions of the regulations were adopted to ensure that "refinery gate" averaging would lead to compliance for each covered area separately.

This answer is applicable even in situations where fungibility is not a concern. For example, if a refinery supplies segregated (not fungible) shipments of averaged RFG to two covered areas and one of those areas are subject to a ratchet, all averaged RFG produced at that refinery must meet the ratcheted standards.(7/1/94)

8. Question: If an area's standards have been ratcheted, some suppliers of that area will likely opt for a per gallon standard the following year and thus are not required to meet the ratcheted standards. Will it not be much more likely for that area to fail a subsequent survey since subsequent surveys will be comparing results obtained from samples of largely per gallon RFG to a ratcheted standard? Furthermore, if surveys occur during the first part of a year, before it is known whether surveys were failed late in the previous year, how will regulated parties know the standard against which these survey results will be compared?

Answer: These are two of several questions which are based upon the following *incorrect interpretation of the regulations*: Determination of a survey failure during a year when ratcheted standards are in place is based upon a comparison of the survey results to these ratcheted standards. *This is an incorrect interpretation*. Determination of failure of a survey for a covered area will ALWAYS be based upon a comparison of the survey results with the applicable per gallon standards and this determination is independent of the current status of ratcheted standards applied to averaged RFG for that area. Thus, the choice of some refiners to opt to produce RFG based upon a per gallon standard after a ratcheting occurs would not negatively impact the chances that an area would pass a survey. Likewise, since the per gallon standards against which a survey is compared are always known, the question above as to surveys conducted early in the year is irrelevant.(7/1/94)

9. **Question:** A refiner did not supply gasoline to an area during the year the area fails a survey but begins supplying gasoline to that area the following year when the failure has triggered a ratchet. Is all of that refiner's averaged RFG produced during the following year subject to the ratchet even if the refiner segregates RFG for other non-ratcheted areas from that shipped to the ratcheted area?

Answer: The regulations provide that any ratcheted standards apply to all of the averaged RFG produced at a refinery subject to those ratcheted standards, regardless of where the gasoline is used. The rationale for this approach is that because compliance with the averaged standards is determined at the refinery gate, mechanisms are not included in the regulations to document the properties of a refinery's gasoline by specific covered areas. (Of course, VOC ratchets are region-specific. It is anticipated that Region 1 gasoline will typically be segregated from Region 2 gasoline.) Applying ratcheted standards to only that portion of a refinery's production sent to the covered area with adjusted standards would require the refiner to demonstrate the volume and quality of the refinery's gasoline production that is used in a specific covered area. EPA rejected this approach as unworkable on an industry-wide basis and the regulations do not provide an exception for individual refineries.(7/1/94)

10. **Question:** The regulations require that if "refiners, importers, and oxygenate blenders" supplying a covered area do not complete a survey for that area, then the covered area would be deemed to have failed. Would the subsequent ratchet also apply to "suppliers" to that covered area? Can the ratcheting of compliance standards, as it relates to average gallon compliance, be used as a penalty on a "by company" as well as a "by region" standard?

Answer: Although, from a practical standpoint in the marketplace, there are "suppliers" in the sense it is used in the question, enforcement of average standards are refiner, blender, and importer-based. Therefore, as is mentioned in Survey Question 2 (above), if a refiner sells RFG to another refiner for downstream retail or wholesale sales, the original refiner must account for the standards in place at the ultimate destination of the gasoline. (As is discussed in Survey Question 3, if the refiner does not know where the product will finally be used, the refiner must assume it has gone to any covered area supplied by any fungible system into which the refinery is distributing gasoline.) Thus, if RFG is brought into a covered area through purchase or exchange by a "supplier" who is other than the producer of the gasoline, this RFG should meet the ratcheted standards. This includes the ratcheted average standard (applicable to the refiner, importer or blender), and the ratcheted maximum/minimum standard (applicable to all parties including those downstream). If RFG brought into an area which has a ratcheted standard by a "supplier" does not, in fact, meet the ratcheted standards for that area, then each regulated party handling this out-of-compliance gasoline would be liable for a violation of the standard in question. Thus, the "supplier" which did not produce the gasoline but which brings the gasoline into the ratcheted covered area is responsible for meeting the ratcheted minimum and maximum standards. Furthermore, the "supplier" is responsible for conducting a quality control program which, as a defense against an enforcement action, must demonstrate that the gasoline meets the maximums or minimums applicable to the area, including ratcheted maximums and minimums in the case of a failed survey area.

Thus, in regards to the last part of this question, average standards are applicable to refiners, importers and blenders and, if ratchets occur, these parties must meet the ratcheted standards on average. These same parties as well as the "suppliers" mentioned above are all responsible for compliance with maximums and minimums. Compliance with "average standards" on an area-by-area basis is effectively brought about by the survey in that, if the survey in a given area is failed, averaged standards for all refiners, importers, and blenders producing gasoline for that area are ratcheted.^(7/1/94)

11. **Question:** Section 80.41(p) states that if a maximum or minimum standard is changed to be more stringent, the effective date for such a change shall be ninety days following the date EPA announces the change. Yet in 80.40(k)-(o) it is stated that the more stringent standard goes into effect beginning in the following year. Is this inconsistent?

Answer: In the case of the average standard, a more stringent ratcheted standard will be effective for the entire year even if the ratchet is not announced by EPA until late in the previous year or early in the year of the ratchet. (As is discussed in Survey Question 5 above, the Agency will use every means possible to assure early announcement of survey failures and ratchets.)

Section 80.41(p) clarifies that ratcheted minimums and maximums will become effective 90 days after the ratchet is announced.^(7/1/94)

12. **Question:** If there are two surveys for RVP/VOC for a covered area per year and both fail, does this result in two "additive" ratchets for the covered area?

Answer: No. Failure of surveys during a single year are not "additive", i.e., if any or all surveys in an area are failed during a given year, a single ratchet will be applied for the following year. Additionally, as in Survey Question 6 above, if a refiner is supplying gasoline to many covered areas and several of them experience survey failures, the refinery is subject to the most stringent standard applicable to any of the areas. In 1996, no area could be subjected to more than a single ratchet resulting from a 1995 survey failure. Thereafter, however, a single area may be subject to two or more consecutive yearly ratchets. In the case of a refiner supplying this area and other areas with standards which have been ratcheted only once, all of the refiner's gasoline would be subject to the most severe ratchet.^(7/1/94)

13. **Question:** Do ratchets resulting from failures of simple model surveys carry over to 1998 complex model standards if there were no survey failures in 1997?

Answer: In the case of VOC, NO_x and toxics standards, if no simple or complex model survey failures occur in 1997 and no ratcheted complex model standards apply as a result of complex model survey failures prior to 1997, then no ratcheted standards will be applicable in 1998. This is true even if there are in-place ratcheted simple model standards for these parameters in one or more areas in 1997 due to simple model survey failures during previous years. On the other hand, if simple model failures do occur during 1997, these would cause a ratchet of complex model standards in 1998.

In the case of benzene and oxygen standards, applicable ratchets due to survey failures would carry over from 1997 to 1998 independent of complex or simple model use.

The Agency recognizes that there will be a transition period during which complete turnover of simple model gasoline (remaining in retail station tanks after 1997) to complex model gasoline will occur. This transition period presents some practical problems which will have to be addressed in regards to surveys (and in regards to retail station enforcement of RFG regulations). Since this situation will not occur until 1998, the Agency will address this situation at a later time, after the RFG program is introduced and valuable experience is gained dealing with initial surveys and the initial enforcement of the regulations.

It is important to note that benzene and oxygen are not covered by the above discussion. Any failure of the benzene or oxygen standards would, in fact, result in a ratchet the following year regardless of the year the failure occurs.(7/1/94)

14. **Question:** Under section 80.68(c), a NOx survey series consists of samples collected between January 1 and May 31 or September 16 through December 31. A NOx survey, on the other hand, consists only of any survey conducted between June 1 and September 15 (the high-ozone season). If there is a NOx survey failure between June 1 and September 15, would a supplying refinery be subject to a NOx ratchet for just the high ozone period or would NOx standards be ratcheted year 'round?

Answer: Any NOx ratchet resulting from a NOx survey or survey series failure would apply to both VOC and non-VOC-controlled gasoline. Thus, NOx standards would be ratcheted year 'round even if the failure occurred only within the high-ozone period. Likewise, if the "survey series" outside the high-ozone period was failed, all NOx standards including those during the high-ozone period would be ratcheted.(7/1/94)

15. **Question:** If the air is found to have failed the VOC or toxics surveys, is the refiner subject to additional burden other than the tightening of the particular specifications as listed in section 80.41?

Answer: Since surveys do not consist of the sampling and analysis of ambient air, the "air" does not pass or fail VOC or toxics surveys. Reformulated gasoline in a specific control area is sampled and analyzed for certain parameters and it is upon the basis of the results of these analyses that an area will pass or fail a survey. Survey failures result in the ratcheting of standards as described in section 80.41. The only other burden for which these refineries would be responsible, would be additional surveys in future years since the required number of future surveys would not decrease as quickly as it otherwise would have.(7/1/94)

16. **Question:** Can those parties responsible for carrying out a survey utilize other methods of assurance that money is available to pay a contractor instead of actually placing the necessary funds in escrow?

Answer: Section 80.68(c)(16) specifically requires the placement in escrow or payment to the surveyor of the full amount of money needed to carry out the survey. The regulations do not provide for any alternative method such as a financial test of self insurance or a demonstration of financial responsibility.(7/1/94)

17. **Question:** Previous EPA handouts such as the one utilized at the NPRA workshop held in March, indicated that 120 surveys must be conducted for the nine original RFG covered areas. In fact, since the California cities which are part of this group are not covered by the survey requirements, shouldn't the 120 surveys apply to only the remaining seven areas?

Answer: Yes, 120 surveys which apply to the original cities currently apply to the seven remaining cities and not to San Diego and Los Angeles.(7/1/94)

18. **Question:** Since the 120 surveys were originally meant to cover nine areas and not seven, shouldn't the 120 surveys (and 80, 60 and 50 surveys for subsequent years) be adjusted downward?

Answer: No. The regulations provide that the 120 surveys (80, 60, and 50 in subsequent years) shall be conducted in 1995. Although the regulations provide for an increased number of surveys as areas opt into RFG, the regulations do not provide for fewer surveys than initially required based on the fact that regulated parties supplying gasoline to California cities are not subject to survey requirements under section 80.81(b)(1).(7/1/94)

19. **Question:** Section 80.68(b)(2) requires an increase in the number of surveys to be conducted under Option 2, the nationwide survey option, based on the amount of gasoline utilized in the opt-in areas. What is the source of the annual gasoline volume data by covered area? When will EPA announce the adjusted number of required surveys for 1995?

Answer: The Agency views the adjusted number of surveys required as most appropriately part of the survey plan as submitted to the Agency. Thus, the Agency will look to the survey plan to define the appropriate methodology to determine the appropriate number of surveys based on the gasoline volumes utilized in opt-in areas and in the original nine cities. Likewise, for the years after 1995, the rate of decrease in the total number of surveys required will itself decrease based upon the gallonage of fuel supplied to areas which fail surveys the previous year. (See Survey Question 20 below.) The method to determine the volume of gasoline in these areas and, thus, the adjusted number of surveys, should be defined in the survey plan. (The areas addressed in the survey plan include not only the opt-in areas but also the gasoline volumes in the original nine cities since the equations in the regulations that determine the year-to-year change in the number of surveys required utilize ratios potentially involving the volumes for all cities in the RFG program, including the original nine envisioned in the Clean Air Act.) EPA will review this methodology as part of its overall review of a survey plan.

A related question involves the volume of gasoline in the "original nine cities" utilized in the equations to calculate the adjusted number of surveys. It was intended that this volume include the California areas which, under the California exemptions, will not now be included in the actual surveys. As is mentioned in Survey Question 19, the regulations are clear that all nine cities be included in this original volume. Thus the California areas will be included in the volumes for the "original nine cities" (V_{orig}) as specified in the equations of section 80.68(b)(2).^(7/1/94)

20. **Question:** Given that the number of surveys required in later years (after 1995) will, in part, be determined by survey failures, when will EPA announce the adjusted number of required surveys for 1996 (or subsequent years)? How can a survey plan be submitted by September 1, 1995, if the adjusted number of surveys for 1996 is not known?

Answer: The survey plan will have to take into account whatever contingencies may occur. Any change in the total number of surveys which may be triggered by areas "passing" or "failing" surveys (see section 80.68(b)(2)(ii)) will not result in any change in the actual areas covered by the surveys. Rather, it will only change the number of surveys required for those areas. Thus, the survey plan will still have to address information such as how representative samples will be identified in each city and all other site-specific factors in planning a survey. In terms of total numbers of surveys, the plan should address the "worst case" contingency of no drop in total surveys required. If the total number of surveys drop, any plan which addresses the "worst case" contingency should accommodate a smaller number of total surveys.

For new opt-in areas, the Administrator has some discretion in setting the date for compliance with introduction of RFG. Utilizing this discretion, and working with the states on scheduling opt-in requests, the Agency will work to facilitate opt-in schedules so as to not disrupt the efficient planning of surveys or introduction of RFG generally.^(7/1/94)

21. **Question:** Section 80.67(a)(2) authorizes a compliance procedure for benzene and oxygen averaging on a "covered area" basis. If a refinery participates in a compliance survey, does this section apply? Does this section apply only if a refinery decides to average oxygen or benzene and does not participate in a compliance survey? Do ratchets apply to parties complying with oxygen and benzene averaging under this section?

Answer: The compliance procedure described in this section allows for oxygen and benzene

averaging on an area-specific basis. Since the purpose of surveys is to assure that nationwide averaging provides adequate quality gasoline overall on an area-specific basis, a party complying under this section is not subject to the survey requirements, i.e., the refiner or importer need not take part in a survey. It is important to note that a party complying under this section must obtain EPA approval by supplying EPA with a detailed description of the procedures the party will undertake in order to assure that the complying fuel is limited to a specific covered area. EPA believes that a procedure to assure adherence to this type of area-specific averaging would require substantial effort on the part of the complying party.

If a refinery/importer participates in a compliance survey, the averaging provisions and requirements stated in this section do not apply. If a refinery/importer does not take part in a compliance survey then it must either: 1) comply on a per gallon basis or 2) it can choose to average oxygen and benzene (only) under this section and, of course, must comply with all requirements of this section.

Although parties complying with averaging under section 80.67(a)(2)(i) are considered to have met the survey requirements under section 80.68, the regulations do not authorize an exemption for these parties from complying with ratcheted standards for averaged RFG which result from failed surveys. If such parties were not subject to ratcheted average standards, an unworkable enforcement situation would result under which several different maximum and minimum standards would be applicable to the same area.^(7/1/94)

22. Question: Please describe the survey areas which are currently applicable.

Answer: Attached to this document as Attachment II is a list of the presently applicable survey areas including opt-in areas. This list is current as of June, 1994. (The Agency has promulgated a "corrections notice" which defines these areas.)^(7/1/94)

23. Question: A previous EPA handout utilized at the NPRA workshop held in March, indicated that survey samples outside of the maximum and minimum standards with no enforcement tolerance applied will not be used to obtain survey values for that parameter. Is this correct?

Answer: No. The handout was incorrect and should read that survey samples outside of the maximum and minimum standards plus any enforcement tolerance applied will not be used to obtain survey values for that parameter. (See section 80.68(c)(6)(i).)^(7/1/94)

24. Question: Could a refiner or importer comply with an RFG standard on average without actively (e.g., financially) participating in compliance survey option 1 or 2? Does section 80.67(a)(1), or any other paragraph in the regulations, mean that a refiner, importer, or oxygenate blender must actively participate in the compliance survey requirements in order to meet the RFG standards on average (with the exception of area-specific oxygen and benzene averaging under section 80.67(a)(2))?

Answer: With the exception of area-specific oxygen and benzene averaging under section 80.67(a)(2), all refiners, importers or oxygenate blenders must actively comply with the survey requirements in order to be eligible to meet RFG standards on average. Section 80.67(a)(1) states that "any refiner, importer, or oxygenate blender that complies with the survey requirements...has the option of meeting the standards...for average compliance...[and] any refiner, importer or oxygenate blender that does not comply with the survey requirements must meet the standards...for per gallon compliance, and does not have the option of meeting standards on average." The survey requirements are specified in section 80.68, which provides two options - a program of compliance surveys performed by a refiner, importer, or oxygenate blender (option 1), or a comprehensive program of surveys conducted under a plan approved by EPA (option 2). Section 80.68(b) does not explicitly identify those refiners, importers, and blenders that are deemed to satisfy the survey requirements under the second option. However, it does reference section 80.68(a) which requires active participation by a refiner, importer or blender, and

EPA believes that requiring active participation under 80.68(b) is more likely to result in broader and more comprehensive surveys. Therefore, EPA interprets section 80.68(b) as providing that a refiner, importer or blender will be deemed to have satisfied the survey requirements if they actively participate in a comprehensive survey program.^(7/1/94)

25. **Question:** Section 80.68(a)(3) indicates that the penalty for failure to carry out "an approved survey" is the requirement that the regulated party achieve compliance with all per gallon standards for the entire year in question. Does this penalty apply to both survey options or just option 1?

Answer: It applies to both survey options as discussed in the answer to Survey Question 24 (above). EPA interprets sections 80.67 and 80.68 as requiring an active participation in conducting either a survey under option 1 or option 2 as a prerequisite for meeting the standards on average. If a refiner, importer or blender does not actively participate, that party must meet the standards on a per gallon basis.^(7/1/94)

26. **Question:** Would survey failures in 1999 result in Phase II ratchets in 2000? Could survey failures prior to 1999 result in Phase II ratchets in 2000?

Answer: All ratchets in place in 1999 and all survey failures which take place in 1999 will apply to Phase II gasoline in 2000, subject to the section 80.41 ratcheting requirements. For example, if an area has been ratcheted by 1% for VOC reductions for the year 1999, and that area also fails a survey in 1999, then Phase II averaged RFG in 2000 is ratcheted by 2% in 2000.^(7/1/94)

27. **Question:** With respect to section 80.68(b)(4)(ii), would a failure to conduct a simple model RFG survey NOT result in a Phase I complex model NO_x ratchet because simple model RFG has been deemed to comply with the NO_x standard?

Answer: One interpretation of the question could include the assumption that a "simple model survey" might not be conducted while a "complex model survey" is conducted. Under the regulations, there are no separate "simple model surveys" and "complex model surveys". There is a single survey consisting of complex model samples and simple model samples. Nevertheless, a survey could be conducted with simple model samples but no complex model samples if no complex model gasoline were being distributed in the area. In such a case, if some simple model sample parameters were failed, there would be a ratchet of those failed simple model parameters but there would be no failure of complex model parameters since no complex model gasoline was found to be in the area. (As is discussed in Survey Question 13 above, benzene and oxygen failures are not covered by this discussion and a failure of these standards would always precipitate a ratchet the following year.) Thus, complex model NO_x parameters would not be ratcheted for the following year. (In 1997, however, failure of the simple model VOC or toxics parameters will result in the ratcheting of those parameters for complex model gasoline in 1998.) If a planned survey was not conducted, the regulations are specific that the area would be deemed to have failed for all parameters including NO_x. (See section 80.68(b)(4).)^(7/1/94)

28. **Question:** Are samples collected at retail outlet dispensers acceptable for the compliance survey requirements?

Answer: Details of what is acceptable for purposes of the compliance survey will be specified in the survey plan submitted to the Agency in the September prior to the year of the survey (assuming the plan submitted is approved by EPA). However, it is highly likely that such samples from dispensers at retail stations would indeed be the basis of survey results.^(7/1/94)

29. **Question:** A prudent business approach to achieving year-averaging oxy content of RFG above 2.1% and meeting the ROXY requirements would be to over-oxygenate with EtOH in winter to generate

ROXY credits and minimize oxy content (from MTBE, etc.) in summer to reduce cost (still staying about 1.5% O₂, of course). A survey of a market done in summer could therefore show O₂ levels at that point in time lower than 2.0% (but about 1.5%). What are the implications on "ratchet" of the area to higher O₂ levels?

Answer: Oxygen is evaluated on a year round basis under the survey. See § 80.68(c)(3). As a result, if oxygen levels in the summer that are below 2.0 wt% are off set by oxygen levels in the winter that are greater than 2.0 wt%, there would be no oxygen ratchet. However, there are separate week-long VOC surveys that depend in part on oxygen levels. Failure of a simple model VOC survey results in a ratchet of the RVP standard.^(12/5/94)

30. **Question:** If there is an oxygen survey failure, when would the new oxygen minimum standard be enforced at downstream locations?

Answer: Under 40 CFR § 80.68(c)(12) a covered area has failed an oxygen survey series if the annual average oxygen content from the survey series is less than 2.00 weight percent (wt%). Under 40 CFR § 80.41(o), in the event of a failed oxygen survey series the minimum oxygen content standard is increased by 0.1 wt% beginning the year following the year of the failed survey series. Thus, where a covered area first fails an oxygen survey series, the oxygen minimum standard for that area is "ratcheted" from 1.5 wt% to 1.6 wt% beginning the following year.

40 CFR § 80.41(q) specifies that, with certain limited exceptions, a ratcheted standard applies to each refinery that supplied any RFG to the covered area in question during the year of the survey failure, or during a year the ratcheted standard applies. Imported gasoline is subject to ratcheted standards based on the PADDs where the survey failure occurred and where the gasoline is imported, using rules specified at 40 CFR § 80.41(q)(2). Under 40 CFR § 80.41(p) a ratcheted minimum or maximum standard, such as a ratcheted oxygen minimum standard, applies beginning 90 days following the date EPA announces the change.

Thus, for example, if there were an oxygen survey series failure for one or more covered areas during 1996, and if EPA announced this failure on January 20, 1997, the ratcheted standard would apply beginning 90 days later, on April 20, 1997. Under this example, beginning April 20, 1997, any RFG certified at an applicable refinery or by an applicable importer would be in violation if the oxygen content is less than 1.6 wt%.

The regulations do not specify when a ratcheted standard would be enforced at locations downstream of the refinery or importer level. EPA understands, however, that there is lag time between the date refiners and importers begin producing gasoline to a new standard, and the date this gasoline displaces the earlier gasoline through the distribution system. For this reason, EPA will exercise enforcement discretion and will not enforce a ratcheted standard at downstream locations until 90 days following the date the ratcheted standard applies at the refinery/importer level.

Under the example discussed above, where the ratcheted oxygen standard applies at the refinery/importer level beginning on April 20, 1997, the 1.6 wt% oxygen standard would not be enforced at downstream locations until 90 days later, or July 19, 1997. Beginning on July 19, 1997, under this example, the 1.6 wt% oxygen standard would be enforced at any retail outlet or wholesale purchaser-consumer facility in the relevant covered area, and at any facility upstream of the retail level that is transporting or storing gasoline intended for use in this covered area. This would include facilities such as pipelines or terminals in a fungible distribution system that supplies any gasoline to the relevant covered area, even where these facilities are located outside the covered area in question. ^(11/12/96)

31. **Question:** Please provide an overview of compliance performance with simple model and status of

any ratchets.

Answer: For Simple Model surveys the pass/fail criteria include:

- A minimum oxygen annual average of 2.00 weight percent.
- A maximum benzene annual average of 1.000 volume percent
- A minimum Simple Model toxics reduction annual average of 15.0%

In addition to these annual average "survey series" criteria, a Simple Model VOC reduction standard applies to each seven day survey done during the VOC control season (June 1-September 15). Simple Model VOC emissions and emissions reduction requirements are calculated from RVP and oxygen content, and the required reductions from baseline emissions are 35.3% for VOC control region 1 (South), and 16.7% for VOC control region 2 (North).

In 1996, 146 surveys were conducted in 22 RFG areas. More than 4700 samples from retail gasoline stations were collected. Samples collected outside of California were analyzed for oxygenates, benzene, aromatics and, during the VOC control season, RVP. (A total of 6 surveys were conducted in Los Angeles, San Diego and Sacramento, CA in which only oxygen content was sampled.). Oxygen survey series failures occurred in eight of the areas surveyed. These areas, shown with their oxygen averages are:

AREA	AVERAGE (wgt. % oxygen)
Atlantic City, NJ	1.90
Baltimore, MD	1.86
Dallas-Fort Worth, TX	1.89
Houston-Galveston, TX	1.86
Norfolk-Virginia Beach, VA	1.87
Philadelphia.-Wilmington, DE-Trenton, NJ	1.95
Richmond, VA	1.85
Washington, D.C.-area	1.90

The annual "survey series" averages for benzene content and toxics reduction met regulatory requirements, although the 1% benzene level was exceeded in certain individual surveys. VOC reduction requirements were met for each of the summer surveys.

As a consequence of the oxygen survey series failures, the per gallon minimum oxygen requirement for the affected "averaged" RFG is being raised from 1.5% to 1.6%. A Federal Register Notice announcing the oxygen ratchet was published on July 31, 1997 (62 FR 41047). The notice announces the increased standard and describes the covered areas and parties that are subject to the standard. The notice also provides a timetable for enforcement of the new standard. Refiners, importers and oxygenate blenders will be required to meet the new standard 60 days from publication; facilities such as pipelines and terminals 120 days from publication, and retail outlets and wholesale purchaser-consumer facilities 150 days from publication. (11/10/97)

F. DOWNSTREAM OXYGEN BLENDING REQUIREMENTS

1. **Question:** Must oxygenate be added to RBOB downstream of the refinery?

Answer: Yes. Oxygenate must be added to RBOB in the proper type and amount regardless of where it is sold. Specifically, section 80.77(a)(7) prohibits any person from combining RBOB with any other gasoline, blendstock, or oxygenate except oxygenate of the type and amount specified for the RBOB type or with other RBOB that has the same requirements related to oxygenate type and amount.

Furthermore, the RFG regulations contain other relevant and specific prohibitions on the transfer and blending of RBOB. Section 80.69(a) requires that refiners and importers only transfer RBOB to downstream oxygenate blenders who are registered with EPA under the RFG program or, if to an intermediate owner, with the restriction that such owner transfer the RBOB only to a registered blender. Section 80.69(b) requires downstream oxygenate blenders to add oxygenate in the proper type and amount to all gasoline designated as RBOB.^(10/17/94)

2. **Question:** May a party add more oxygenate to RBOB than is specified in the product transfer documents for the RBOB?

Answer: Section 80.78(a)(7)(i) requires that RBOB may be blended only with oxygenate of the type and amount (or within the range of amounts) specified by the RBOB refiner, and recited in the RBOB product transfer documents. Nevertheless, there is no adverse environmental consequence if a party blends a quantity of oxygenate with RBOB that exceeds the specified amount, provided that the resulting RFG meets the oxygen maximum and substantially similar requirements. Note that under certain circumstances there is an adverse environmental consequence if the oxygenate type which is blended is different than the specified type. In addition, there almost always is an adverse environmental consequence if the amount of oxygenate which is blended is less than the specified amount.

In consequence, EPA will allow parties to view the oxygenate amount specification for RBOB as a minimum, and add oxygenate amounts in excess of that minimum up to the applicable oxygen maximum under § 80.41(g) in the case of simple model RFG, or up to the substantially similar maximum in the case of all RFG. In no case, however, may a party add an oxygen amount which is less than the specified amount, or an oxygenate type which is different than the specified type. For example, if an oxygenate blender obtains non-VOC-controlled any-oxygenate RBOB for which 7.7 vol% ethanol (2.9 wt% oxygen) is specified, the oxygenate blender may blend up to 10 vol% ethanol (4.0 wt% oxygen). The oxygenate blender in this example could not, however, blend less than 7.7 vol% ethanol. EPA intends to modify § 80.78(a)(7)(i) in a future rulemaking to reflect this answer. ^(4/18/95)

3. **Question:** Would a refinery that receives RBOB from another refinery and blends oxygenate(s) with that RBOB to make RFG also have to register as an oxygenate blender?

Answer: Yes. Under § 80.2(mm), an oxygenate blender means "any person who owns, leases, operates, controls, or supervises an oxygenate blending facility, or who owns or controls the blendstock or gasoline used or the gasoline produced at an oxygenate blending facility." Under § 80.76(a), registration is required for "any oxygenate blender that produces any reformulated gasoline." In addition, the refiner-oxygenate blender would be required to demonstrate compliance with the oxygen standard for the RFG produced in its oxygenate blending capacity separately from the RFG produced as a refiner.^(10/31/94)

4. **Question:** If RBOB and oxygenate are blended upstream from the truck in an oxygenate blending facility, which of these parties would be considered an oxygenate blender and have the associated regulatory requirements:

- A. Terminal owner (if different than operator)
- B. Terminal operator (not product owner)
- C. Product owner (in tankage)
- D. Customer-exchange partner (ownership transfers at rack spiller)
- E. Truck owner (common carrier)

Answer: An oxygenate blender is defined at § 80.2(mm) as "any person who owns, leases,

operates, controls, or supervises an oxygenate blending facility, or who owns or controls the blendstock or gasoline used or the gasoline produced at an oxygenate blending facility." An oxygenate blending facility is defined at § 80.2(II) as "any facility (including a truck) at which oxygenate is added to gasoline or blendstock, and at which the quality or quantity of gasoline is not altered in any other manner except for the addition of deposit control additives." Therefore, in the scenario described above, where the gasoline is blended by the terminal upstream from the truck, the terminal would be the oxygenate blending facility and both the owner and operator of the terminal facility would be oxygenate blenders under the regulations. The product owner also would be an oxygenate blender. The customer-exchange partner would be an oxygenate blender if ownership of the product is transferred to him immediately upon blending as the product enters the truck. In this scenario, the customer-exchange partner would own the gasoline at the point where sampling and testing would normally occur, and, therefore, would be in a position to ensure that this is accomplished. The truck owner would not be an oxygenate blender where the truck driver exercises no control over the blending operation, and the truck is not an oxygenate blending facility. The truck owner, however, would be a common carrier under the regulations, subject to carrier liability and defenses. (10/17/94)

5. Question: If an oxygenate blender adds oxygenate only to conventional gasoline downstream of the refinery, please confirm that the oxygenate blender is not considered a "refiner" and therefore is not subject to record keeping, reporting, or attest engagement requirements.

Answer: This party would not be considered a "refiner" for purposes of the anti-dumping requirements, and is not required to meet the anti-dumping requirements specified in the question.(7/1/94)

6. Question: Is splash blending of oxygenates allowed under the RFG program?

Answer: Yes.(7/1/94)

7. Question: If ethanol is splash blended into a truck, does the truck operator become an oxygenate blender? If so, what are the registration, reporting, recordkeeping, and oversight requirements of the trucker? Will two bills of lading (one from a gasoline terminal and one from an ethanol terminal) stapled together be valid documentation of final product?

Answer. The regulations at § 80.2(II) and (mm) specifically provide that any person who owns, leases, operates, controls or supervises an oxygenate blending facility, the definition of which includes a truck, is an oxygenate blender under the regulations. In addition, the gasoline owner, if different than the truck operator, would meet the oxygenate blender definition. As such, the truck operator and the gasoline owner would be subject to all registration, reporting, recordkeeping, and oversight requirements for oxygenate blenders specified in § 80.69.

In a case where the oxygen standard is being met on a per-gallon basis (and not on average), two bills of lading that contain all the product transfer document information specified in § 80.77 would be appropriate documentation for showing that the proper amount and type of oxygenate are used generally, but these documents would not satisfy the sampling and testing requirements specified under § 80.69(e).

8. Question: It is my understanding that if a terminal, registered as an oxygenate blender, blends RBOB and oxygenate into a truck using a computer controlled in-line blender the truck is also considered an oxygenate blender. If this is true, does the truck have to register? If the truck is not registered can the terminal legally sell this blended product to the truck?

Answer: If blending occurs prior to putting the gasoline into the truck, then the terminal is the blending facility. If blending occurs in the truck, then the truck is the blending facility. As discussed in Question 11 of Section VI.A. of the July 1, 1994 "Question and Answer" document, EPA will permit

regulated parties to agree among themselves who should register as a blender; however, if the registration requirement is not met, all parties remain liable. EPA recommends that the owner of the gasoline register, and the parties should agree between themselves as to whom will register.^(8/29/94)

If more than one party meets the "oxygenate blender" definition, EPA will not enforce registration, reporting, recordkeeping and quality assurance requirements if these requirements are met by at least one of the parties. The parties should agree between themselves which of them will register with EPA. (EPA recommends that the party who owns the gasoline register.) All parties remain liable if the reporting, recordkeeping and quality assurance requirements are not met. Terminals may only transfer RBOB to registered oxygenate blenders.^(7/1/94)

9. Question: The custody transfer point of the RBOB between the terminal operator and the exchange company is normally at the loading arm connection to the transport. Since the title to the RBOB is therefore held by the exchange company and not the terminal operator at the moment the RBOB enters the blending facility (the transport truck), is the terminal operator still considered an oxygenate blender in this situation? Our interpretation is that, in the case of automated sequential blending, the terminal would be an oxygenate blender because it "controls and supervises" the blending process. Likewise, it is our interpretation that the terminal operator would not be an oxygenate blender in a splash blending situation since the operator does not have title to the RBOB or ethanol at the time of blending and does not supervise or control the blending process. Is this interpretation correct?

Answer. Your interpretation is correct in the first situation. If, in the second situation, the transport truck operator controls the amounts of products to be splash blended in the truck, your interpretation is also correct.^(7/1/94)

10. Question: If, in a splash blending situation, the terminal is not an oxygenate blender, would it handle the RBOB as an intermediate owner and transfer title of the RBOB to the exchange customer with the restriction that it only be sold to another intermediate owner of an EPA registered oxygenate blender? Would the exchange company, carrier, and owner of the blended product be responsible for the oxygenate blender oversight provisions and not the terminal operator?

Answer: If a terminal does not meet the oxygenate blender definition, the answer to both questions is "yes."^(7/1/94)

11. Question: If a refiner produces "specified RBOB" for 3.5% oxygenate (for example, 10% vol EtOH) blending, and an oversight program shows that the downstream blender is adding less than 10% EtOH, who is liable for a compliance violation? If there a violation at all if the actual finished blend still meets the RFG specs? For example, if RBOB is formulated to meet RFG with 8% EtOH, but the refiner sells it as "10% EtOH" RBOB (and uses the 10% in the calculation of its non-oxygenate parameters) to encourage maximum ROXY credits, does an actual blend with 8% EtOH cause a violation?

Answer: If the downstream oxygenate blender is adding oxygenate in amounts other than that specified by the refiner of the RBOB, the blender would be liable for a violation of the regulations regardless of whether the gasoline meets the downstream standards. In such a case, the RBOB refiner would have to recalculate its batch values for the RBOB to reflect that actual level of blending that occurred (e.g., benzene and toxics emissions performance.)^(11/28/94)

12. Question: Are there different RBOBs for ethanol than for MTBE? Kindly list the types of RBOBs with all the acceptable oxygenates or ethers for each RBOB.

Answer: Yes. The generic RBOB types are as follows: "Any oxygenate," "Any renewable oxygenate," "Any ether," "Any renewable ether," and "Non-VOC controlled renewable ether only." There

are several legal oxygenates which may be blended with the various types of RBOB. Please refer to the RFG and renewable oxygenate regulation preambles for a detailed discussion. For example, it would be appropriate to blend ethanol with "any oxygenate" or "any renewable oxygenate" RBOB, but inappropriate to blend ethanol with "Any ether" or "Any renewable ether" or "Non-VOC controlled renewable ether only" RBOBs. MTBE may appropriately be blended with "any oxygenate," "ether only," (and if the MTBE is from a renewable source "Any renewable oxygenate" or "Non-VOC controlled renewable ether only" RBOB).^(8/29/94)

13. **Question:** Is tertiary butyl alcohol (TBA) an acceptable alternative oxygenate to MTBE?

Answer: Tertiary butyl alcohol may be blended in amounts permitted under its section 211(f) waiver. There are several oxygenates available other than the two most common, MTBE and ethanol, and these oxygenates may be legally used if blended in the type and amount specified under EPA's "substantially similar" rule and any section 211(f) waiver that may apply. Parties needing further information about the legality of a particular oxygenate should contact the Field Operations and Support Division Fuels Team at (202) 233-9050.^(8/29/94)

14. **Question:** There is considerable confusion regarding the ability of refiners to commingle RBOB produced at different refineries. Some refiners have interpreted 80.69 as requiring separate storage and handling for each RBOB, even when both are "any oxygenate" RBOB. Can "any oxygenate" RBOB be commingled?

Answer: RBOB must be segregated from RFG, and from other RBOB having different oxygenate requirements, to the point of oxygenate blending. There is no need to separate "any oxygenate" RBOB from other "any oxygenate" RBOB.^(7/1/94)

15. **Question:** Would it be permissible to combine (i.e., commingle) any-oxygenate RBOB with an RBOB designated for blending with 10 vol% denatured ethanol, provided the new RBOB (resulting from the combination) is designated for blending with 10% denatured ethanol?

Answer: Section 80.78(a)(7) provides that "no person may combine any reformulated gasoline blendstock for oxygenate blending with any other gasoline, blendstock, or oxygenate..." and § 80.78(a)(7)(ii), states that an RBOB may be combined with "other RBOB for which the same oxygenate type and amount (or range of amounts) was specified by the refiner or importer." In addition, guidance was provided in the April 18, 1995 Question and Answer document that parties may consider the oxygenate amount specified for RBOB to be a minimum specification, and oxygenate may be added in excess of that minimum up to the applicable oxygen maximum or substantially similar maximum.

As a result, a party could combine RBOB's that have different requirements for oxygenate amount (but not different oxygenate types), provided that the mixture is designated for oxygen blending with the largest oxygen amount specified for any of the RBOBs in the mixture. For example, a party could combine any-oxygenate RBOB with RBOB designated for blending with 10 vol% denatured ethanol, as described in the question, provided that the mixture is designated for blending with 10 vol% ethanol.
^(8/29/95)

16. **Question:** What is a satisfactory quality assurance program that ensures oxygenates are being added to RBOB at a non-proprietary terminal?

Answer: For refiners and importers who wish to claim the actual oxygenate type and amount blended with RBOB, a program of contractual controls and quality assurance sampling and testing over the downstream oxygenate blending operation must be carried out. Under §§ 80.69(a)(6) and (7), a quality assurance sampling and testing program must be carried out at the facilities of each oxygenate

blender who blends any RBOB with any oxygenate. The testing methodology used must be consistent with § 80.46(g). Section 80.69 specifies, among other things, mandatory sampling and testing rates and where samples must be taken.

Refiners and importers have a second compliance option which allows them to make certain default assumptions regarding the type and amount of oxygenate blended downstream. Rather than claim the actual amount of oxygenate blended, these parties make certain default ("worst case") assumptions regarding the type and amount of oxygenate blended downstream. Under §80.69(a)(8), these assumptions are in lieu of the contractual and quality assurance requirements of §§ 80.67(a)(6) and (7).^(7/1/94)

17. **Question:** If a refiner of RBOB elects to use "worst case" oxygenate blending assumptions to comply with the RFG regulations in lieu of engaging in quality assurance sampling and testing at the blender's blending facility, does the refiner have a duty to sample or test the RBOB or the end-product RFG at any point after the RBOB is transferred to the oxygenate blender?

Answer: No.^(8/29/94)

18. **Question:** If an RBOB refiner elects to engage in a quality assurance program at the blender's blending facility per the terms of a contract with the blender, must the refiner sample and test the RBOB as it is received at the blender's facility? If so, how often must sampling and testing be performed? Should sampling and testing be done at the blender's facility prior to shipment, or after the retail outlet accepts delivery?

Answer: The refiner's quality assurance sampling and testing, under § 80.69(a)(7) must be of the RFG produced at an oxygenate blending facility, and not of the RBOB. The rates for testing are specified in § 80.69(a)(7). With respect to when sampling and testing should be conducted, refer to § 80.69(e)(2)(i).^(8/29/94)

19. **Question:** If an RBOB refiner elects to engage in a quality assurance program at the blender's blending facility per the terms of a contract with the blender, must the refiner sample and test the end-product RFG that is shipped from the blender to retail outlets? If so, how often must sampling and testing be performed?

Answer: The refiner should sample and test end-product RFG at the blender's facility.^(8/29/94)

20. **Question:** If a refiner ships RBOB to an oxygenate blender at another location, is the refiner responsible for tracking properties following oxygenate addition?

Answer: Refiners are required to determine the properties of each batch of RBOB they produce or import prior to the gasoline leaving the refinery. Under § 80.69(a)(4) the refiner is required to determine that the properties of the RBOB are sufficient to allow the downstream parties to establish, through sampling and testing, whether the RBOB has been altered or contaminated so that it will not meet the applicable RFG standard after the addition of the specified type of oxygenate. If the refiner is complying with § 80.69(a)(6) and (7) [i.e. claiming the actual oxygen content blended by the downstream blender], then the refiner must have a contractual relationship with each downstream blender and conduct a quality assurance and testing program. If the refiner is complying with § 80.69(a)(8), in lieu of the contractual relationship and quality assurance requirements, he may make his compliance calculations based on specified, "worst case" assumptions about oxygen content.^(7/1/94)

21. **Question:** If a refiner of RBOB elects to engage in a quality assurance sampling and testing at the non-proprietary blender's facility by contractual provision, can the refiner contract for a third party to

perform the quality assurance sampling and testing? If so, can the third party contract to assume the refiner's liability in case the quality assurance program is deficient or ineffective and leads to violations of the applicable standard?

Answer: The refiner could meet the quality assurance sampling and testing requirement through sampling and testing carried out by a third party, although this third party could not be the oxygenate blender. The refiner would be liable, however, for any failure to meet the regulatory requirements, and any contractual agreement between the refiner and the third party would have no effect on the refiner's potential liability.^(8/29/94)

22. **Question:** In the case of an RBOB refiner conducting oversight over the RFG produced at a downstream oxygenate blending operation, what standards does EPA intend that the refiner should check through sampling and testing?

Answer: Under § 80.69(a) an RBOB refiner is required to calculate the non-oxygen parameter values for the RFG produced from the RBOB using either the oxygen blending assumptions under § 80.69(a)(8), or the actual oxygen blending levels if the refiner meets the contractual and quality assurance requirements specified in §§ 80.69(a)(6) and (7). The quality assurance provision of § 80.69(a)(7) states that the refiner must use sampling and testing to ensure that the RFG produced by the downstream oxygenate blender meets "applicable standards." The particular standards which are intended are not further specified in that paragraph, however.

EPA believes it is only necessary under § 80.69(a)(7) for the refiner to evaluate the RFG produced by an oxygenate blender for the oxygen type and amount, and not for other RFG standards. The RBOB used in any particular oxygenate blending operation could be from a fungible mixture of RBOBs (with identical requirements for oxygenate type and amount) that were produced at one refinery or at more than one refinery, and that probably would have different target values for the non-oxygen standards. As a result, it would not be meaningful for the refiner to test for the non-oxygen standards at the oxygenate blending facility. In addition, testing for the oxygenate type and amount will confirm whether the blender is using the oxygenate type and amount specified by the RBOB refiner and used by that refiner in their compliance calculations.

EPA believes there is little risk the RFG produced from RBOB will violate a downstream standard under this approach, because the RBOB refiner must specify an oxygenate type and amount for the RBOB such that the resulting RFG will meet all standards. For example, if a particular RBOB requires the dilution of 10 vol% ethanol to meet the benzene standard, the RBOB refiner is required to specify 10 vol% ethanol for the RBOB, and any downstream oxygenate blender who uses this RBOB is required to add 10 vol% ethanol. ^(4/18/95)

23. **Question:** In § 80.69(a)(2), the procedure for sampling and analysis of RBOB is defined. A hand blend with the specified type and amount of oxygenate is to be prepared and the blended sample analyzed, with those results to be used in compliance calculations. In §80.67(g), compliance totals are defined as the sum of each batch's volume times its parameters. What volume is to be used for RBOB in computing the compliance total -- the actual RBOB volume produced or the implicit volume after blending with the specified oxygenate volume and type?

Answer: The volume after blending with the specified oxygenate volume and type (i.e., the RBOB volume plus oxygenate) should be used for computing the compliance total.^(11/28/94)

24. **Question:** Please clarify how the batch properties and volume are determined for a batch of RBOB. Should the volume of oxygenate specified by the refiner to be blended with a batch of RBOB downstream be included in the batch volume reported for the RBOB?

Answer: Yes. Section 80.69(a)(2) requires the refiner to analyze an actual blend of a representative sample of the RBOB and oxygenate using the regulatory methods to determine the properties and characteristics of the resulting RFG. The RBOB is certified based on these results. The batch volume reported for the RBOB is the amount of RBOB plus the amount of oxygenate that the refiner designates must be blended downstream. This amount must be based on the analysis of the representative sample of RBOB and oxygenate. Where § 80.69(a)(8) is applicable (i.e., in lieu of the contractual and quality assurance requirements specified in §§ 80.69(a)(6) and (7), and where the refiner designates RBOB as "any oxygenate" or "ether only"), the refiner must assume that the volume of oxygenate added downstream will be such that the resulting RFG will have an oxygen content of 2.0 weight percent. Where § 80.69(9) is applicable (i.e., in lieu of the contractual and quality assurance requirements specified in §§ 80.69(a)(6) and (7), and where the refiner does not designate the RBOB as "any oxygenate" or "ether only"), the refiner must assume that the volume of oxygenate added to the RBOB downstream is 4.0 volume percent ethanol.

The batch volume, i.e., the volume of RFG that will result after oxygenate is blended with RBOB downstream, can be calculated using the following formula:

$$V_t = V_g + \left(\frac{RV_g}{1 - R} \right)$$

Where:

- V_t = Volume of RFG that will result after oxygenate is blended with RBOB.
- R = Portion of RFG that is denatured oxygenate, expressed as a decimal.
- V_g = Volume of RBOB.

For example, if a refiner has a 50,000 barrel batch of RBOB, and the refiner designates, based on the analysis of the representative sample, that the resulting RFG must contain 10.0 vol% denatured ethanol, the refiner would mathematically determine the amount of ethanol needed for the batch of resulting RFG to have 10.0 vol% ethanol, and add that amount to the 50,000 barrels of RBOB. In this example, the amount of RFG would be:

$$V_t = 50,000 + \left(\frac{0.1 * 50,000}{1 - 0.1} \right)$$

$$= 55,556$$

Where § 80.69(a)(8) is applicable, the RBOB refiner will have to calculate how much volume of oxygenate is required to result in the RFG batch having a 2.0 weight percent oxygenate. This volume of oxygenate can be calculated using the following formula:

$$V_{\text{oxygenate}} = \frac{W\%_{\text{oxygen}} \times V_{\text{RBOB}} \times d_{\text{RBOB}}}{d_{\text{oxygenate}} \times ((100 \times F_{\text{oxygenate}}) - W\%_{\text{oxygen}})}$$

Where

$W\%_{\text{oxygen}}$	=	weight percent oxygen in final blend
$V_{\text{oxygenate}}$	=	volume of oxygenate used, exclusive of denaturant
V_{RBOB}	=	volume of RBOB and denaturant used
$d_{\text{oxygenate}}$	=	specific gravity of denatured oxygenate used
d_{RBOB}	=	specific gravity of RBOB used
$F_{\text{oxygenate}}$	=	oxygen weight fraction for the oxygenate (0.3473 for ethanol; 0.1815 for MTBE)

For example, where a refiner has a 50,000 barrel batch of "any oxygenate" RBOB (including denaturant), and assumes a specific gravity of 0.7420 for the RBOB and a specific gravity of 0.7939 for the denatured ethanol, the amount of the batch would be:

$$\begin{aligned}
 V_{\text{oxygenate}} &= \frac{2 * 50,000 * 0.7420}{0.7938 * ((100 * 0.3473) - 2)} \\
 &= 2,856 \\
 V_{\text{total}} &= 50,000 + 2,856 \\
 &= 52,856
 \end{aligned}$$

(8/15/95)

25. Question: Regarding the requirement in § 80.69(a)(2) that refiners and importers blend a representative sample of an RBOB batch with refinery-specified oxygenate, the composition of specified oxygenate blended in the laboratory is likely to differ from the composition of oxygenate arriving at the blender terminal, in that smaller amounts of oxygenates may be present. May these smaller amounts of oxygenates be included for meeting the refiner's blending instructions where a particular oxygenate type has been specified by the refiner or importer?

Answer: EPA will not consider the refiner's blending instructions to be compromised where the specified oxygenate contains de minimis amounts of other oxygenates resulting in the RFG produced to contain other oxygenates in amounts no more than: 0.4 vol% ethanol, or 0.6 vol% MTBE, ETBE, TAME or t-butanol, or 0.2 vol% methanol. These exceptions apply only if the offending oxygenate is present as a result of operational necessity, and specifically would not apply if the offending oxygenate was intentionally added. See also the October 3, 1995 Question and Answer document, Prohibitions Section,

Question 1, regarding the allowance of de minimis amounts other oxygenates in VOC-controlled RFG.
(5/9/95)

26. **Question:** Refiners or importers producing or importing RBOB must blend the proper amount of oxygen with the RBOB and test it for the regulated parameters pursuant to § 80.69(a)(2). Since they are not responsible for the oxygen content, must they test for oxygen, and, if they do test, must they report the results of the test for oxygen?

Answer: Section 80.69(a)(2) requires an RBOB producer or importer to add the specified type and amount of oxygenate to a representative sample of the RBOB and to determine the properties and characteristics of the resulting gasoline using the methodology specified in § 80.65(e). Section 80.69(a)(2) does not exclude oxygen from the parameters to be tested, so the refiner or importer should test for oxygen. Although the regulations do not require the RBOB producer or importer to report the oxygen results of the representative sample blend on its batch report, this test result, which would then be available for the attest engagement or in the event of an enforcement audit, would provide analytical verification of the amount of oxygen added to the representative sample blend.^(1/30/95)

27. **Question:** Under the RFG regulations, RBOB cannot be mixed with RFG. However, normal tank blending of oxygenates will require the presence of residual "heels" of RFG from prior batches of RBOB and oxygenate blending, or routinely large portions of the preceding batch impossible to completely move into a pipeline shipment prior to receipt of more RBOB. Will EPA confirm that this mixing is not the subject of the prohibition against mixing RFG and RBOB provided no material is transferred from the blending tank between the time of new RBOB receipt (with oxygenate type and amount matching previous RBOB batches) and addition of the specified type and amount of oxygenate? Testing of finished RFG for required oxygen content and volume would be conducted in accordance with the regulations.

Answer: EPA would not treat the prohibition against mixing RFG and RBOB as having been violated in the situation you describe as long as the volume and oxygen content of the residual RFG from the prior batch have been accounted for by: 1) determining the volume of the portion of RFG left in the tank prior to blending with additional RBOB and oxygenate (the oxygen content of the residual amount will have been determined previously); 2) sampling and testing the entire tank subsequent to blending the additional RBOB and oxygenate to determine its volume and oxygen content; and 3) mathematically subtracting the volume and oxygen content of the residual from those of the entire tank to determine the new batch volume and oxygen content.^(12/5/94)

28. **Question:** Section 80.65(e) states that oxygen, benzene, and RVP must be known for each batch of RFG prior to release from the refinery. Does this requirement apply to RBOB?

Answer: Section 80.75(a) requires a refiner or importer of RBOB to report the properties, pursuant to §§ 80.65 and 80.66, of each batch of RBOB it produces or imports. Section 80.69(a)(2) requires refiners and importers of RBOB to test a representative sample of the RBOB and specified oxygenate using the methodology specified in § 80.65(e). Section 80.65(e), therefore, clearly applies to RBOB for purposes of complying with these provisions. Consequently, although § 80.65(e) does not make specific reference to RBOB, EPA believes that the requirement of § 80.65(e) that certain test results must be obtained prior to release of the gasoline by the refiner or importer applies to RBOB. These test results would be reported to EPA pursuant to § 80.75(a) as the properties of the RBOB. Oxygen test results are not required prior to releasing RBOB, but the refiner or importer should retain oxygen test results to support the accuracy of the non-oxygen parameter testing.^(1/30/95)

29. **Question:** Can EPA give any additional guidance as to the intent behind § 80.69(a)(4)?

Answer: Section 80.69(a)(4) requires RBOB refiners to determine properties of RBOB which will

allow downstream parties to establish if the RBOB has been contaminated, in order to ensure the RFG produced using the RBOB will meet applicable RFG standards. This provision was included in the final rule in order to facilitate quality assurance programs by downstream parties who handle RBOB, particularly where RBOB from a specific refinery is transported as a segregated product. EPA now believes this provision has little value because of the fungible manner in which RBOB is being transported in practice. Moreover, EPA now believes that downstream parties may conduct fully adequate quality assurance programs over RBOB by hand blending the oxygenate type and amount that is specified for the RBOB, and testing for the downstream standards. In consequence, EPA intends to remove § 80.69(a)(4) from the RFG regulations in a future rulemaking, and in the meantime parties need not make the determinations specified in this paragraph. (4/18/95)

30. Question: How do you certify a splash blended batch before proper mixing occurs (where mixing occurs during transport)?

Answer: An oxygenate blender "certifies" RFG produced by combining RBOB with oxygenate by adding the proper type and amount of oxygenate. In the case of an oxygenate blender who meets the oxygenate standard on a per-gallon basis, the oxygenate blender is not required to sample and test each batch, but rather to conduct a specified quality assurance program of sampling and testing. The oxygenate blending records would be sufficient to "certify" that a particular batch that is not tested was properly blended. In the case of an oxygenate blender who meets the oxygenate standard on average, every batch must be certified by sampling and testing.

The RFG regulation does not specify the distance or length of time that a batch must be transported in the delivery truck before proper mixing occurs. In order to ensure that proper mixing has occurred, the driver should sample the batch immediately before he places it in the underground storage tank at the retail station or when the batch reaches its final destination. (7/1/94)

31. Question: The answer to Question 10, Section VI.F., of the July 1, 1994 Question and Answer document states that RFG produced by adding oxygenate to RBOB in the compartment of a truck is one batch and that each compartment must be given a different batch number. Isn't this answer inconsistent with § 80.69(c), which states, "other than a truck delivering gasoline to retail outlets or wholesale purchaser consumer facilities?" This section indicates that the retail delivery trucks are not included in the same class as storage tanks. Also, neither § 80.69(d) nor § 80.69(e) require designation of compartments or even truck loads as separate batches and only sampling and oversight are required under § 80.69(e).

Answer: EPA's response in the July 1, 1994 Question and Answer document does not alter the requirements of the reformulated gasoline regulations. The term "batch" is used consistently and appropriately with regard to the regulations. The truck batch numbering requirement discussed in Question 10, Section VI.F., of the July 1, 1994 Question and Answer document applies to truck oxygenate blenders who meet the oxygen standard on average in accordance with § 80.69(b)(4). See also Question 26, Section VI.H. of the July 1, 1994 Question and Answer document for further discussion of this issue. (10/17/94)

32. Question: Section 80.69(e) refers to "additional requirements for oxygenate blenders who blend oxygenate in delivery trucks." What type of activity is this intended to cover?

Answer: This section refers to any case where the RBOB and oxygenate is not combined, mixed, and tested in a storage tank before loading into a truck. Thus, the provision includes cases both where the RBOB and oxygenate are sequentially loaded onto a truck, and where the RBOB and oxygenate are combined in a blending header between the storage tanks and the truck. (7/1/94)

33. Question: Does section 80.69(e) apply to operations where RBOB is received into a terminal tank

from a pipeline or barge and is subsequently blended with oxygenate in a truck?

Answer: The regulatory provision at § 80.69(e) applies to situations where RBOB is blended with oxygenate at a terminal other than in a terminal storage tank (which is addressed in § 80.69(c)). The requirements of § 80.69(e) would apply where RBOB and oxygenate are loaded onto a gasoline delivery truck at the same time. This would be the case where the RBOB and oxygenate are loaded sequentially into a truck at the loading rack, as well as where RBOB and oxygenate are combined in a mixing header that is located between the RBOB storage tank and the truck loading rack. (8/29/95)

34. **Question:** Section 80.69(b), requirements for oxygenated blenders, seems to conflict with 80.69(e), additional requirements for oxygenate blenders who blend oxygenate in trucks. Does 80.69(b)(4) apply to parties covered by 80.69(e)? Does each truck compartment have to be assigned a batch number?

Answer: Section 80.69(b)(4) applies to parties covered by 80.69(e), if they are averaging.

RFG produced by adding oxygenate to RBOB in the compartment of a truck is one batch of RFG and each compartment must be given a different batch number. If blending occurs prior to introducing the RFG into the truck compartment and is designated as a batch, then multiple compartments could be filled with RFG from the single designated batch. (7/1/94)

35. **Question:** The answer to question 11 of Section F states that RFG produced by adding oxygenate to RBOB in the compartment of a truck is one batch and that each compartment must be given a different batch number. Section 80.69(c) of the regulations states "other than a truck delivering gasoline to retail outlets or wholesale purchaser-consumer facilities," which clearly indicates that retail delivery trucks are not included in the same class as storage tanks. Neither section 80.69(d) nor 80.69(e) require designation of compartments or even truck loads as separate batches and only sampling and oversight are required in section (e). It would appear that the Q and A document is in direct conflict with the July 1, 1994 memo signed by K. Stein, C. France, and M. Smith which states that the Q and A does not alter the requirements of the regulations.

Answer: It is assumed that the question and answer referred to is #10 of Section VI. F. of the July 1, 1994 "Reformulated Gasoline and Anti-Dumping Questions and Answers" document. EPA's response does not add or alter the requirements of the final reformulated gasoline regulations. The term "batch" is used consistently and appropriately with regard to the regulations. Also, truck batch numbering applies to truck oxygenate blenders who meet the oxygen standard on average. Please refer to the July 1, 1994 "Question and Answer" document, Question 26, Section VI.H., as well. (8/29/94)

36. **Question:** What testing must an oxygenate blender conduct at the point of blending?

Answer: The requirements for oxygenate blender testing are contained in §§ 80.69(b) through (e) of the regulations. (7/1/94)

37. **Question:** Are truck drivers required to test the last three deliveries to a station if they are from different suppliers?

Answer: Section 80.69(e)(2) requires certain sampling and testing by oxygenate blenders who splash blend and provides that quality assurance testing must be conducted either prior to when the delivery truck driver puts gasoline into the underground tank at the retail outlet, or subsequent to delivery into the underground tank if the last three deliveries to the retail outlet were acquired from the same blender as the current load. If the oxygenate blender is unable to meet the specified testing frequency at retail outlets where the last three deliveries were from different blenders, the oxygenate blender is required to sample before putting the gasoline in the underground tank, which would require a sample

from the delivery truck.^(7/1/94)

38. **Question:** Section 80.69(b)(4) indicates that an oxygenate blender that chooses to average is required to test each batch of product. In the case of computer controlled truck blending would documentation of the metered volumes of components be sufficient given an oversight program as outlined in this section?

Answer: EPA has not provided for "metering" of volumes as a substitute for per-batch testing.^(7/1/94)

39. **Question:** According to § 80.69(e)(2)(ii)(A) or (B), an oxygenate blender is required to sample and test at a specific rate of blending "occasions." Assume that the oxygenate blender blends the oxygenate in trucks by a computer controlled sequential blender. Is each truck load an "occasion?" Is a truck with multiple compartment grades more than one "occasion?"

Answer: The term "occasion" is used in context to refer to each time RBOB and oxygenate are blended in a truck. In the example given, the product in each truck or in each compartment representing a grade would be the result of a blending "occasion."^(8/29/94)

40. **Question:** We believe that computer controlled sequential blending of oxygenates at the rack is at least as accurate as computer controlled in line blending. Is sequential blending of oxygenates at the rack considered sufficiently equivalent to computer in line blending to allow the sampling and testing rates under § 80.69(a)(7)(i)(B) for in line blending?

Answer: For purposes of § 80.69, computer controlled sequential blending is considered to be a form of computer controlled in line blending, and qualifies for the sampling and testing rates applicable to computer controlled oxygenate blending under §§ 80.69(a)(7)(i)(B)(2) and (e)(2)(ii)(A). The fact that the blend is carried out with the help of computer technology provides an additional level of oversight over non-computer controlled splash blending. This extra margin of confidence is the reason for the reduced sampling frequency where computer controlled in line blending is used.

The only concern with sequential blending is whether or not the resulting splash blend will be homogeneous. This can also be a concern for in line blending if the pumping rates of the blendstocks are not consistent throughout the entire blend. For example, if oxygenate is added last in a sequential blend, or if the oxygenate addition of an in line blend finishes at a rate greater than the target ratio, then portions of the tank compartment will most likely be non-homogeneous.

In either case, sampling can be compromised by the possibility of an unmixed blend. To avoid this problem it is recommended that oxygenate be added to the truck before RBOB during sequential blending in order to facilitate complete blending of the oxygenate.^(9/26/94)

41. **Question:** Please confirm that no specific registration requirements are needed to qualify for the lower sampling rates in § 80.69 if an oxygenate blender uses computer controlled sequential blending.

Answer: There is no specific registration requirement associated with computer controlled in-line blending for an oxygenate blending operation. If such blending is used, then the lower sampling rate in § 80.69(e)(2)(ii)(A) is appropriate.^(11/21/94)

42. **Question:** The RFG regulation specifies a sampling rate of each 500 occasions or at least every 3 months for per gallon parties who use computer controlled in-line blending. EPA has also permitted computer controlled sequential blenders to use this sampling rate.

We use computer controlled sequential blending. Each blending arm is capable of multiple blends. When we reach the 500th occasion of blending on a given blending arm, do we sample only batch #500 (whatever grade that occasion happens to correspond to) or are we required to sample every grade (which means, e.g., we would be required to sample occasions #500, 501 and 502 if the blending arm is capable of three grades)?

Answer: Under § 80.69(e)(2), downstream oxygenate blenders who splash blend oxygenate with RBOB in trucks are required to conduct a quality assurance program of sampling and testing the RFG produced at the blending operation, and under § 80.69(e)(2)(ii)(B) for a computer controlled in-line blending operation the sampling rate must be one sample per each 500 occasions RBOB and oxygenate are blended in trucks, or one sample every three months, whichever is more frequent. EPA does not interpret this regulatory provision as requiring that the sample must be of the 500th blending occasion, but rather it requires that any one blend from among each 500 must be sampled. Further, EPA interprets this regulatory provision as intending that a single truck into which RBOB and oxygenate are splash-blended would constitute one blending "occasion," regardless of whether the truck is loaded with a single grade of RFG or with more than one grade. (4/18/95)

43. **Question:** In the case of RFG oxygenate blenders who splash blend oxygenate in trucks and who wish to meet the oxygen standard on average, what options are available for establishing the oxygen content of the RFG produced? Specifically, is there any option other than every-batch sampling and testing, which would require sampling and testing every truck (or every truck compartment) for a truck splash blending operation?

Answer: Under § 80.69(b)(4), an RFG oxygenate blender who meets the oxygen standard on average is required to sample and test each batch of RFG produced to determine the batch's oxygen content, and assign a number to the batch for reporting purposes. This every-batch sampling and testing requirement applies regardless of whether the oxygenate blending is carried out in a large terminal tank or through splash blending in trucks.

EPA agrees that every-batch sampling and testing by an oxygenate splash blender would be difficult. As a result, an oxygenate blender may meet the oxygen standard on average without conducting every-batch sampling and testing provided the oxygenate blender meets the following requirements:

1. Computer-controlled oxygenate blending required. The oxygenate blending must be carried out using computer-controlled in-line or sequential blending, that operates in such a manner that the volumes of oxygenate and RBOB are automatically dispensed when a particular grade of gasoline is selected for loading into a truck, and no operator instructions are required regarding the oxygenate-RBOB proportions when an individual truck is loaded. Thus, this alternative averaging approach would not be available where the oxygenate and RBOB are separately metered into a truck, regardless of whether the separate metering occurs at the same terminal or at different terminals.
2. Oxygenate blender must operate blending equipment. The oxygenate blender must be the party who operates the computer-controlled in-line or sequential blending equipment. Thus, this alternative averaging approach would not be available to a party who receives delivery of splash blended RFG into trucks at a terminal if the terminal is not operated by that party, regardless of whether the receiving party is a registered oxygenate blender.
3. Reporting and compliance calculations. The oxygenate blender may base its batch reports and compliance calculations on the volumes and properties of RBOB and oxygenate used during a period not longer than one calendar month. Values must be derived separately for each designation of gasoline (OPRG/VOC, OPRG/non-VOC, non-OPRG/VOC, non-OPRG/non-VOC) at each blending facility. Grade need not be specified for those batches. In calculating the oxygen content of the RFG produced,

the oxygenate blender may use assumptions regarding the specific gravities of the oxygenate and RBOB blended, or in the alternative the oxygenate blender may use the measured specific gravities of all oxygenate and RBOB blended in the blending operation. Similarly with regard to the denaturant content of the ethanol (if used), an oxygenate blender may assume the denaturant content is 5 vol% of the ethanol used provided the blender obtains documents from the ethanol supplier which support this assumption and provided the quality assurance sampling and testing (described below) supports this assumption, or in the alternative the denaturant content of ethanol may be measured.

During each oxygen averaging period, however, an oxygenate blender must use only the assumed specific gravities or only the measured specific gravities for all compliance calculations for an oxygenate blending facility. Similarly, during each oxygen averaging period an oxygenate blender must use only the assumed denaturant content of ethanol (if used) or only the measured denaturant content for all compliance calculations for an oxygenate blending facility.

a. The wt% oxygen which may be claimed is calculated using the following equation:

$$V\%_{\text{oxygen}} = \left(\frac{(V_{\text{oxygenate}} \times d_{\text{oxygenate}} \times F_{\text{oxygenate}})}{(V_{\text{RBOB}} \times d_{\text{RBOB}}) + (V_{\text{oxygenate}} \times d_{\text{oxygenate}})} \right) \times 10$$

Where

$W\%_{\text{oxygen}}$	=	weight percent oxygen in final blend
$V_{\text{oxygenate}}$	=	volume of oxygenate used, exclusive of denaturant
V_{RBOB}	=	volume of RBOB and denaturant used
$d_{\text{oxygenate}}$	=	specific gravity of denatured oxygenate used
d_{RBOB}	=	specific gravity of RBOB used
$F_{\text{oxygenate}}$	=	oxygen weight fraction for the oxygenate (0.3473 for ethanol; 0.1815 for MTBE)

b. In the case of an oxygenate blender who is calculating oxygen content using the assumptions for specific gravity, the following values must be used:

RBOB specific gravity	-	0.7420
denatured ethanol specific gravity	-	0.7939
MTBE specific gravity	-	0.7460

c. An oxygenate blender using the measured specific gravity option must determine, through sampling and testing, the specific gravity for each batch of oxygenate and RBOB used to produce RFG.

d. An oxygenate blender using the measured oxygenate purity option must determine, through sampling and testing, the purity for each batch of oxygenate used to produce RFG.

4. Quality assurance sampling and testing.

a. An oxygenate blender who meets the oxygen standard on average using the procedures described in this answer must conduct a program of quality assurance sampling and testing the RFG produced, using the procedures and at the frequencies specified under § 80.69(e)(2).

b. An oxygenate blender who assumes ethanol has a denaturant content of 5% must conduct a program of quality assurance sampling the ethanol used. The frequency of this sampling and testing must be at least one sample every month. In the event an ethanol sample from this quality assurance program has an oxygenate purity level of less than 92.1%,⁶, the oxygenate blender must: 1) use the greater denaturant content for all oxygen compliance calculations for the ethanol that was tested, and; 2) increase the frequency of quality assurance sampling and testing to one sample every two weeks, and must maintain this frequency until four successive samples show an ethanol purity content that is equal to or greater than 92.1%. The formula for calculating denaturant content based upon ethanol purity is $100 \text{ volume \% fuel ethanol} - 0.99 \text{ volume \% water} - (\text{oxygenate purity} / 98\% \text{ purity})$. For example, if a quality assurance test yielded an oxygenate purity level of 90%, the denaturant content used in the compliance calculations will be calculated as $99.01 \text{ vol \%} - (90/98)$, or 7.17 volume % denaturant.

5. Attest procedures.

An oxygenate blender who meets the oxygen standard on average using the procedures described in this answer must commission an independent review of the oxygenate blending operation using persons with the qualifications specified in § 80.125. The agreed upon procedures for the independent review should follow the requirements specified in §§ 80.129(a) through (c). In addition, the attester should complete the following attest steps:

a. Obtain a listing of all oxygenate receipts for the previous year, test the mathematical accuracy of the volumetric calculations contained in the listing, and agree the volumetric calculations of the oxygenate receipts to the calculations contained in the material balance analysis.

b. Obtain a listing of the monthly (or lesser period if used by the oxygenate blender) oxygen compliance calculations, test the mathematical accuracy of the listing, and agree the volumetric calculations to the material balance analysis. Select a representative sample of the oxygen compliance calculations, and determine whether the oxygenate blender is basing its calculations on the assumptions for specific gravity and the denaturant content (if ethanol is used), or on the assumed values. If the oxygenate blender is using measured values, obtain the oxygenate blender's test results for specific gravity and denaturant content for the RBOB and oxygenate used, and agree these test results to the compliance calculations. If the oxygenate blender is using the assumed values, agree the specific gravity and denaturant content used in the compliance calculations with the values specified in this procedure.

c. Agree the sampling and testing frequency of the oxygenate blender's quality assurance program with the sampling and testing rates required by this procedure.

6. Record retention.

The oxygenate blender must meet the record keeping requirements that are specified under

⁶ASTM D 4806-94 allows for up to 5 volume % denaturant, 1.25 mass % water and 2.0% volume impurities for denatured fuel ethanol. Therefore, the minimum level of ethanol purity would be calculated as $(100 \text{ volume \% fuel ethanol} - 5 \text{ volume \% denaturant} - 0.99 \text{ volume \% water}) \times 98\% \text{ purity}$, or 92.1%.

§§ 80.74(a), (c), and (d), and in addition must meet the record keeping requirements specified under § 80.74(a) for any oxygenate sampling and testing that is performed.

In addition to the alternative averaging approach described above, EPA would be willing to consider other alternative approaches that ensure the integrity of the averaging program.^(8/29/95)

44. **Question:** Referring to § 80.69, will EPA consider alternative testing approaches if extreme circumstances prohibit testing as defined by EPA? As an example, the situation may exist where an oxygenate blender is prohibited by state law from taking truck samples. In this case the only way to comply with EPA sampling requirements would be to somehow sample the batch as it is being dropped at its destination. This may be prohibited if the terminal only sells to jobbers. In addition, product sampled from trucks or retail outlets does not necessarily reflect product blended by the oxygenate blender. Residual fuel in trucks and or retail tanks will mix with the terminal product before sampling. A quality oversight of the RBOB in conjunction with meter readings showing proper delivery of oxygenate volumes may better reflect a terminal's product? How does the EPA plan to test in these situations?

Answer: EPA will consider extreme circumstances that may prohibit sampling and testing as required by section 80.69. However, to date, EPA is not aware of such circumstances.

Some state laws may prohibit the opening of truck compartment hatches during loading, unloading and transport operations. Certainly, sampling should not be conducted during these operations. In order to obtain a representative sample with certainty, the transport vehicle must be driven through a series of starts, stops and turns, so that complete mixing will occur. Safety procedures require that transport vehicles are parked for a period of time prior to sampling, to allow electrostatic charges to dissipate, and vapor pressure to stabilize. Only after this stabilization period are the hatches opened. Therefore, hatch opening will not occur during loading, unloading or transport, and subsequently will not result in significant VOC emissions.

For personal safety reasons as well as the increased amount of work required, sampling truck compartments under section 80.69 should be conducted when retail tank sampling is not appropriate under § 80.69(e)(2)(i)(B). However, if truck sampling is required, the sample collector can confirm with the truck driver whether or not the truck is empty prior to loading. If there is reason to confirm by inspecting the compartments to be sampled, that could also be performed prior to loading. The normal heel of the truck compartments after a complete unloading is not enough product to significantly alter the new load.

A quality assurance program consisting of meter readings and RBOB quality at the distributor level leaves out the question of oxygenate blendstock quality. As a result, a quality assurance program must use samples of RFG produced subsequent to the addition of oxygenate.

EPA inspections will occur both at the retail level, and at the terminal level. In the case of splash blended oxygenate, EPA primarily will rely on samples collected at the retail level, but may collect samples from delivery trucks on occasion.^(8/29/94)