

Air Permit Reviewer Reference Guide

APDG 6161

Qualified Changes Under Senate Bill 1126 §116.116(e)

**Air Permits Division
Texas Commission on Environmental Quality
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Modification of Existing Facilities Under Senate Bill 1126

I. Purpose and Scope

The purpose of this document is to provide guidance to the Texas Commission on Environmental Quality (TCEQ) reviewers and to the regulated community regarding implementing Senate Bill 1126 (SB 1126), which was enacted by the 74th Texas Legislature and became effective on May 19, 1995.

SB 1126 amended the Texas Clean Air Act (TCAA) by revising the definition of “modification of existing facility” (TCAA Section 382.003) and by changing the factors which determine whether a modification occurs (TCAA Section 382.0512). The legislative intent of SB 1126 was to provide additional flexibility of certain facilities to make physical and operational changes without a requirement to obtain a permit amendment. SB 1126 also authorizes flexible permits to make physical and operational changes, and specifically allows certain natural gas processing, treating, or compression facilities to make operational changes.

The TCEQ’s air permit regulations in 30 Texas Administrative Code (TAC) Chapter 116, §§116.10 and 116.116(e) were first amended in 2000 to implement SB 1126. The rules were subsequently amended in 2010 to address deficiencies identified in the rules that resulted in the United States Environmental Protection Agency (EPA) disapproving the qualified facility program as an amendment to the state implementation plan (SIP). EPA approved the amended rules and SIP via publication in the Federal Register on September 9, 2016, and the SIP changes were effective as of October 11, 2016.

II. Summary

SB 1126 revised the TCAA statutory definition of “modification of existing facility” by adding three types of physical and operational changes that are not considered modifications, even if the change results in an increase in emissions. This guidance document deals primarily with the flexibility and permitting options to make physical and operational changes to certain facilities (referred to as qualified facilities) without a requirement to obtain a permit amendment from the TCEQ, referred to in this guidance document as the *qualified facility changes*.

A. 2010 Amendments

In September 2010, the TCEQ amended Chapter 116 to address issues raised by EPA. A summary of the changes are below and additional detail can be found in Appendix A of this guidance document. Show the changes do not require major NSR review (§§ 116.116(e)(1)(B) and (e)(11)).

- Submittal of P-E form prior to any change taking place (§ 116.116(e)(2)(A)-(E)).
- Clarify that facilities without active authorizations cannot qualify under § 116.116(e)(1)(A).
- Facilities authorized under permits or standard permits would be required to submit an application for permit “revision” under § 116.116(e)(2)(A).
- All interchanges for qualified facilities must demonstrate to not adversely affect air quality (§§ 116.116(e)(4)(A)-(C) and 116.116(e)(5)(A)-(F)).
- Added anti-backsliding provision (§ 116.116(e)(10)).
- Addressed terms and definitions, particularly: facility; site; account; and their relation to federal terms.

B. Natural Gas Processing, Treating, or Compression Facilities

An operational change in a natural gas processing, treating, or compression facility connected to or part of a natural gas gathering or transmission pipeline is not a modification, provided the operation does not result in an annual air contaminant emission rate greater than the rate at the maximum design capacity. The intent of this exclusion is to allow gas production facilities to increase throughput up to the design rate.

C. Qualified Facility Changes

Under the qualified facility changes, an existing facility that satisfies certain criteria will be classified as a “qualified facility.” These criteria require that the existing facility be authorized under 30 TAC Chapter 116 or 106, as well as meet one of the following:

- (1) Issued a permit or permit amendment no earlier than 120 months before the change will occur, or
- (2) Uses air pollution control methods that are at least as effective as the Best Available Control Technology (BACT) that was required or would have been required for the same class or type of facility by a permit issued 120 months before the change will occur.

The qualified facility changes of SB 1126 cannot be used for the construction of a new facility.

A qualified facility may make physical and operational changes without obtaining a permit amendment if the change will not result in:

- (1) A net increase in allowable emissions of any air contaminant; or
- (2) The emission of any new air contaminant (i.e., one not previously emitted or allowed to be emitted).

To achieve no net increase in allowable emissions and no emissions of any new air contaminant, the TCEQ will consider the facility’s addition of air pollution control methods to reduce emissions.

The TCEQ also will consider emission decreases from other qualified facilities at the same TCEQ air quality account number (equivalent to the current Regulated Entity Number in Central Registry) to counterbalance emission increases from the change. These emission decreases (trades) will be reductions in either allowable emissions or actual emissions depending on whether the other facility is a qualified facility authorized under 30 TAC §116 (permits) or 30 TAC §106 (PBRs), respectively, following § 116.116(e)(4)(B) – (C).

Note that 116.116(e)(9)(B) specifies that allowable emissions from facilities that were never constructed shall not be used in intraplant trading.

Chapter 116 requires that the TCEQ be notified of the change and any corresponding permit actions associated with the change be submitted and acted upon by the TCEQ.

For all changes made under the qualified facility rules, the owner or operator of the facility must maintain records that demonstrate the change is allowed under the qualified facility changes. Therefore, similar to PBRs, the owner/operator is responsible to ensure that changes conform to applicable requirements. Only a

qualified facility will be able to use the additional flexibility provided by SB 1126. Facilities that do not satisfy the criteria to be a qualified facility will continue to be subject to the definition of “modification,” which is based on whether a change at a facility will result in an increase in actual emissions or in the emission of a new air contaminant.

D. Limits on Scope

Understanding the limits on the scope of the qualified facility changes under SB 1126 is important. SB 1126 only revised the Texas “minor new source review” program to allow some changes to be made without a requirement to obtain a permit amendment. SB 1126 does not supersede federal requirements such as Nonattainment (NA) review and Prevention of Significant Deterioration (PSD) review of new major sources and major modifications to existing sources, which are incorporated into Chapter 116. In its disapproval of the qualified facility program, EPA acknowledged this was the intent of SB 1126, but required that TCEQ state these restrictions more explicitly in the rules.

SB 1126 also does not supersede other TCEQ regulations controlling emissions, such as 30 TAC Chapter 115 (for VOC) and 30 TAC Chapter 117 (for NO_x). Nor does SB 1126 supersede the TCEQ’s general powers and duties to control the quality of the state’s air and to take action to control a condition of air pollution if the TCEQ finds that a condition of air pollution exists.

In making changes under SB 1126, owners and operators must consider the potential for these other federal and state requirements to limit their ability to make a desired change. The owner/operator is responsible for ensuring that any change to a facility complies with all applicable regulations. It should be noted that construction authorizations (permits) do not supersede federal permitting rules and standards (e.g., New Source Performance Standards [NSPS], National Emission Standards for Hazardous Air Pollutants [NESHAPs], or Maximum Achievable Control Technology [MACT]).

III. Terms

This section contains a discussion of several terms that are relevant to using the qualified facility changes. Some of the terms are specifically defined in the Texas Clean Air Act (TCAA). Some are specifically defined in the TCEQ rules. Other terms are defined only in this guidance document.

A. Allowable and Actual Emissions

1. To meet §116.116(e), when implementing qualified facility changes, increases and reductions in allowable emissions at qualified facilities within the same TCEQ air quality account which are authorized by a permit may be traded, resulting in no net increase in allowable emissions across the project.

If the qualified facility changes are authorized under PBR, increases and reductions in actual emissions may be traded, resulting in no net increase in actual or certified emissions across the project.

2. For potential federal permitting applicability, sites which are major sources must also confirm that, for each air contaminant affected, the change will not trigger a PSD or NNSR permit review. For the netting analysis, actual emissions are based on a two-year average.

3. The emission rate units must be the same for any air contaminant affected by the project.

For example, if the qualified facility is proposing short-term emission increases stated in terms of an hourly rate (e.g., pounds per hour), then hourly emissions for the other facilities must be determined.

If the qualified facility is proposing an annual emission increases (e.g., tons per year), then annual emissions for the other facilities must be determined.

4. The emission calculation methodologies must be the same for actual emissions and allowable emissions and be consistent with the methods used in the authorization application.

For example, a PM source controlled by a baghouse that was permitted using the outlet grain loading calculation method cannot use the efficiency calculation method representing emission changes. Using different methodologies may artificially inflate decreases and minimize increases.

5. If actual emissions are greater than a permit allowable rate or a certified PBR limit, then only the permitted or certified maximum may be used in the calculations.
6. If a federal (e.g., NSPS, MACT) or state (e.g., a reasonably available control technology [RACT]) emission limitation has resulted in a reduction in actual emissions during the 120 months, the actual emissions used for the qualified facility change cannot be greater than such limitations.
7. For facilities authorized by PBR, actual emissions will be the highest rates actually achieved over the relevant time periods (e.g., hour or year) at any time during the 120 months before the change will occur. Annual emissions may be determined over any consecutive period of one year; the use of a calendar year is not required.

B. Air Contaminant

The term “air contaminant” is defined in § 382.003(2) of TCAA as “particulate matter, radioactive material, dust, fumes, gas, mist, smoke, vapor, or odor, including any combination of those items, produced by processes other than natural.” The term is not separately or further defined in the TCEQ regulations. SB 1126 did not revise the definition of this term.

To fulfill the legislative intent of providing additional flexibility to qualified facilities, in determining whether a physical or operational change will result in a net increase in allowable emissions of any air contaminant or the emission of a new air contaminant, individual compounds may be interchanged with other compounds in the same air contaminant category. The procedures for making these interchanges are found in Section VII, Interchanges and Intra-plant Trading, of this guidance document.

C. Air Contaminant Category

The term “air contaminant category” is defined in 30 TAC § 116.116(e)(5)(F) as “a group of related compounds, such as volatile organic compounds, particulate matter, nitrogen oxides, or sulfur compounds.” Air contaminant category is used in two ways in implementing qualified facility changes. First, in determining whether a change results in a net increase in allowable emissions, the allowable emissions

for the individual compounds (if any) and the allowable emissions for an air contaminant category (if any) must both be satisfied. Second, interchanges are limited to compounds within the same air contaminant category. Trades involving air contaminant categories must be for the same emissions rate or rates as the air contaminant category allowable emissions at the facility at which the change will occur. By rule, interchanges of compounds in the same category must not adversely affect air quality. Reviewers should pay particular attention to the health effects of interchanged compounds. More detail on this evaluation are found in Section VII, Interchanges and Intra-plant Trading, of this guidance document.

As a result of the 2010 amendments, compounds that were listed by EPA as volatile organic compounds (VOC) but were removed from the list based on their low photo reactivity in forming ozone may be substituted for currently listed VOCs. This is a one-way interchange only. Current VOCs may not be substituted for delisted VOCs (referred to as exempt solvents [ES]). There are approximately 70 ES and they may be found in Appendix B.

D. Allowable Emissions

Allowable emissions are used in two ways when implementing the qualified facility changes. First, the allowable emissions are a limit on the flexibility to make changes. Reductions in allowable or actual emissions at certain other qualified facilities within the same TCEQ air quality account number may be traded to the qualified facility at which the change will occur and must achieve no net increase in allowable emissions.

E. Existing Facility

The term “existing facility” is used in both TCAA and Chapter 116, but is not specifically defined in either. As discussed below, TCAA does define the term “facility.” For purposes of this guidance document, an existing facility is any facility that is not a new facility.

F. Facility

The term “facility” is defined in § 382.003(6) of TCAA as a discrete or identifiable structure, device, item, equipment, or enclosure that constitutes or contains a stationary source, including appurtenances other than emission control equipment. A mine, quarry, well test, or road is not considered to be a facility. The term is not separately or further defined in the regulations. SB 1126 did not revise the definition of this term.

The meaning of the term “facility” is important to the implementation of SB 1126, in that SB 1126 allows physical and operational changes to an existing facility, but does not allow the construction of a new facility. The critical characteristic of a facility is that it creates emissions of an air contaminant.

G. Interchanges

In determining whether a physical or operational change results in a net increase in allowable emissions of any air contaminant or the emissions of a new air contaminant, a decrease in emissions of one compound may be interchanged with an increase in emissions of another, different compound, provided both compounds are within the same air contaminant category. In evaluating interchanges, the evaluation must demonstrate no adverse ambient air impacts.

H. Intra-plant Trading

Intra-plant trading, also referred to as a trade, is the consideration of decreases in allowable and actual emissions from other qualified facilities to achieve no net increase in allowable emissions at the qualified facility making the change.

I. Modification of Existing Facility

The term “modification of existing facility” is defined in § 382.003(9) of TCAA. The statutory definition is repeated in the regulations at 30 TAC § 116.10(9)(D) with minor clarifications. For a qualified facility, a physical or operational change to the facility that does not result in a net increase in allowable emissions of any air contaminant and does not result in the emission of any air contaminant not previously emitted or authorized to be emitted, is not a “modification of existing facility” under the TCAA and does not require a permit. The legislative intent was to provide additional flexibility to qualified facilities by excluding these physical and operational changes from the requirement to obtain a permit.

For those facilities holding a permit issued under § 116.111, changes under the qualified facility program frequently involve an increase in emissions. By statute, this increase cannot be considered a “modification.” EPA noted that the qualified facility rules must require a permit application for those facilities authorized under § 116.111 and making changes under the qualified facility program. Prior to the September 2010 amendments, a permit issued under § 116.111 could either be “amended” or “altered.” Neither term could apply to changes under the qualified facility program. An amended permit requires current BACT and public notice. An altered permit cannot authorize emission increases. For these reasons, changes to a permit under the qualified facility program are “revisions.” The amendments of 2010 also removed language from § 116.10(9)(D)(ii) which stated “has received a preconstruction permit or permit amendment.” This language applied to grandfathered facilities and has no further application in the qualified facility program.

J. New Facility

The term “*new facility*” refers to any piece of equipment which meets the “facility” definition above and has not yet obtained a pre-construction authorization. SB 1126 allows for physical and operational changes to an existing facility, but does not allow the construction of a new facility.

K. Qualified Facility

The term “qualified facility” is neither used nor defined in TCAA. The term is defined in the regulations as a facility that meets the criteria to be able to use the flexibility provided in subsection (D) of the definition of “modification of existing facility” in 30 TAC § 116.10. To be a “qualified facility,” a facility must either: 1) have received a preconstruction permit or permit amendment, or qualified for a PBR within 120 months (10 years) before the physical or operational change to the facility will occur, or 2) use an air pollution control method that is at least as effective as the BACT requirements for a permit issued for a similar facility 120 months before the change will occur.

To be a “qualified facility” by virtue of a PBR, the PBR must have been for the original construction of the facility and not just for a subsequent change to an existing facility.

If the original permit for a facility was issued more than 120 months before the change will occur, it is still possible for the facility to be a qualified facility on the basis of a permit. If the facility has undergone a subsequent permit action (such as amendment) within the past 120 months, and as part of that action TCEQ had the opportunity to review and revise the air pollution control requirements for the facility, then the facility will be a qualified facility on the basis of the permit. It is not necessary that the TCEQ require any revision to the control requirements as a result of that review.

For facilities that have undergone permit renewal within 120 months of a change, qualification is not automatic unless the facility underwent a permit amendment at time of permit renewal since 30 TAC 116.311(b)(2) does not require a BACT review. These facilities may be qualified by virtue using controls that would have been required as BACT within 120 months prior to the change. This can be verified by consulting the list of qualifying BACT, included as Attachment A. If a specific control method has not yet been approved by the TCEQ, the owner/operator should follow the procedures explained in Section IV. D., Determination of No Net Increase in Allowable Emissions.

If a facility is included in a permit that also includes other facilities, the subsequent permit action and control review must have involved the facility at which the change will occur. For example: A permit was issued in 2000 for the construction of facilities A, B, C, D, and E. In 2010, the permit was amended for modifications to facilities A and B, but the amendment and control review did not involve the other three facilities. In 2015, only facilities A and B are qualified facilities on the basis of permit. Facilities C, D, and E will be qualified facilities if they have appropriate control methods. Appropriate control methods for C, D and E would be that the three facilities each use an air pollution control method that is at least effective as the BACT requirements for a permit issued 120 months before the change will occur.

It is important to understand that a facility's status as a qualified facility is not perpetual.

A facility can be a qualified facility at one point in time, but later lose its status as a qualified facility if its permit, PBR, or control methods fall outside the 120-month period. Therefore, the owner or operator of a facility must continually review the qualified status of the facility. For example, if a facility obtained a permit on January 15, 2001, it would be a qualified facility on the basis of the permit until January 14, 2011, and would be eligible to have changes made under the qualified facility changes. After that date, the facility would no longer be eligible to have changes made under the qualified facility changes unless the status as a qualified facility is continued or regained by a subsequent permit action or appropriate control methods. It is also important to note that a facility must be qualified at the time the change occurs (see discussion under the "Time the Change Will Occur").

L. Source

The term "source" is defined in § 382.003(12) of TCAA as "a point of origin of air contaminants, whether privately or publicly owned or operated." The term is not separately or further defined in the regulations. SB 1126 did not revise the definition of this term. The term "source" is not specifically used in implementing SB 1126, other than it is incorporated into the definition of "facility."

M. The Time the Change Will Occur

The determination of the time “the change will occur” at a facility is important to the implementation of SB 1126. The facility at which the change will occur and any other facility from which emission trades will be used must be a qualified facility at the time the change will occur. The time the change will occur marks the end of the 120-month period used to determine whether a facility has the required permit or BACT to be a qualified facility. If any emission trades are required in order to make a change under qualified facility changes, the reduction in allowable or actual emissions must occur no later than the time the change will occur.

For purposes of SB 1126, the time the change will occur will be the same as “start of construction” used elsewhere in 30 TAC Chapter 116; this makes the interpretation of SB 1126 consistent with the rest of 30 TAC Chapter 116. Under 30 TAC Chapter 116 “construction” is broadly interpreted as anything other than site clearance or site preparation. What is and is not “start of construction” is discussed in more detail in [TCEQ Regulatory Guidance RG-121, dated November 1995](#). It is important to note that a facility may be a qualified facility at the time of the decision to make a change, but may not be a qualified facility later at the time the change will occur. If the facility is not a qualified facility at the time the change will occur - that is, at the start of construction - the change cannot be made under qualified facility changes. If the change does not involve construction, but only process changes, the implementation of those changes must also occur in the time period that the facility is qualified.

IV. Procedure for Making Changes Under the Qualified Facility Changes

A. Summary

The procedure for making changes under the qualified facility changes has eight (8) components (each discussed in detail below):

1. Determination that all facilities involved in the change have an active authorization (permit or PBR).
2. Determination that all facilities involved in the change will be qualified facilities at the time the change will occur (10-yr BACT).
3. If the site is an existing minor NSR source, determination that the proposed emission increase is not a major project by itself, requiring major NSR review. If the site is an existing major NSR source, determination that any emission increases will not require major NSR review, based on a contemporaneous netting with appropriate baseline actual emissions.
4. Determination that the change will not result in a net increase in allowable emissions, and using actual emission changes for facilities under PBR.
5. Determination that there will not be the emission of a new air contaminant not previously authorized by the permit or PBR.
6. Notification of the change to TCEQ, through a PI-E form with all supporting documentation.
7. Submittal of application(s) for permit or standard permit revision(s), pollution control project (PCP) standard permits, or PBR certifications (as applicable).
8. Once all the permit/PBR actions associated with the qualified facility changes have been approved or accepted by the TCEQ, the project may be initiated.

NOTE: The rules under §116.116(e) require determinations on the permit actions, but do not specifically require action on the qualified facility change.

Since qualified facility changes may involve multiple authorization actions with varying review timelines, the TCEQ intends to track the PI-E submittal and provide permit holders correspondence once all other required permit actions have been completed.

B. Determination of Authorization - §116.116(e)(1)(A)

Prior to initiating action under the qualified facility changes, the owner or operator must determine that all facilities affected by the project have an active authorization. [Current permits and PBRs](#) and the [public documents](#) are available through the agency's website. Guidance documents for conducting air permit related searches for public documents are at www.tceq.texas.gov/permitting/air/nav/air_status_permits.html.

Note that no new facilities can be authorized under the qualified facility changes.

C. Determination of Qualified Facilities - §116.116(e)(2)(E)

The initial step in making changes under the qualified facility changes is for the owner or operator to determine whether the facility at which the change will occur, and all other facilities from which emissions trades will be used, will be qualified facilities at the time the change will occur. All facilities involved in a change under the qualified facility changes must be qualified facilities at the time the change will occur. Any facility that is not a qualified facility at the time of the change will occur cannot use the qualified facility changes mechanism.

Example: On February 1 the owner or operator decides to make a change to a facility, but the change will not occur (i.e., start of construction) until October 1. Assuming the facility is a qualified facility solely on the basis of a permit, and the 120-month anniversary of permit issuance occurs on July 1, the facility would be a qualified facility when the decision is made to make the change, but would not be a qualified facility at the time the change will occur. Since the facility is not a qualified facility at the time the change will occur, then the change cannot be made under the qualified facility changes. This same rule applies to other facilities from which emissions trades will be used.

D. Determination of Major NSR Applicability - §116.116(e)(1)(B)

The qualified facility program is for minor NSR only. This was the legislative intent and has been the practice for administration of the program since its inception. As a result of the EPA disapproval of the program in 2010, the rules were amended to explicitly require the facility owner or operator to make a major NSR applicability determination prior to any application submittal to TCEQ for a qualified facility change. This determination is made for each facility where actual emissions will be increased and requires the use of significance thresholds and the net emission increase at a facility over a 5-year contemporaneous period following TCEQ [Major NSR Applicability Determination guidance](#).

E. Determination of No Net Increase in Allowable Emissions - §116.116(e)(3)(A)

If all facilities will be qualified at the time the change will occur, the owner or operator must then determine the effect on emissions (i.e., increases and decreases) that will result from the change. Emission increases and decreases will be determined using the same procedures as for other parts of Chapter 116, except that the effect of additional air pollution control methods may be considered. The owner or operator is allowed to implement additional controls to prevent or

reduce any increase in emissions from the change. Please note that addition of control devices may require an amendment, pollution control standard permit, PBR, or permit revision, depending on the device.

Once the effect on emissions is determined, the owner or operator must then determine whether this will result in a net increase in allowable emissions or the emission of a new air contaminant. The net effect is the combined result of any emissions increases and decreases that occur at the facility to be changed, and any decreases in emissions at other qualified facilities within the same air quality account that will be traded over to the facility to be changed.

Any decrease in allowable or actual emissions that will be used to offset an emissions increase must be effective or have occurred by the time the change will occur.

The determination of net effect must be made for each individual compound and air contaminant category relevant to the change, and for each allowable emission for the relevant individual compounds and air contaminant categories. In making this determination, the procedures under Section VII, "Interchanges and Intra-plant Trading" will be used to evaluate emissions changes at the facility and any emission trades from other qualified facilities.

Example: A qualified facility has allowable emissions for VOC, benzene, and hexane. The allowable emissions for all three are in terms of hourly and annual rates. A desired change would increase the emissions of hexane. The owner or operator must determine whether the potential hexane increase would result in total hexane emissions exceeding the hourly or annual allowable emissions for hexane and, since hexane is a VOC, also whether the hexane increase would result in total VOC emissions exceeding the hourly and annual allowable emissions for VOC. Since benzene emissions would not be affected by the change, no determination for benzene is required. If the hexane increase would result in exceeding any of the allowable emissions, the owner or operator could implement additional control methods at the facility or could offset the increase above the allowable emissions by reducing emissions at the same facility or at other qualified facilities, to achieve no net increase in allowable emissions.

If the owner or operator determines that all the facilities involved in the change will be qualified facilities at the time the change will occur, and that there will be no net increase in emissions, then the change may be made under the qualified facility changes.

F. Determination of No New Air Contaminants - §116.116(e)(3)(B)

The qualified facilities change cannot authorize the emissions of a chemical or compound which has not been previously authorized. The release of such chemicals or compounds must occur through a permit amendment or PBR.

G. Notification of the Change - §116.116(e)(2)

A permit or PBR action is required for changes in allowable emissions rates (a new MAERT is required for permits) and for changes to permit conditions or representations, such as firing rates, throughput limitations, emission controls, and monitoring or recordkeeping.

Permits generally contain Special Conditions that may limit operational flexibility (e.g., limits on the throughput, production levels, or fuel usage). If a change made under the qualified facility changes would result in the violation of a permit special condition, the permit holder must revise the permit special condition to stay in compliance with the permit. If a change would require that a condition in a permit be made more stringent to ensure compliance with a reduction, the permit holder must accept the appropriate revision to the special condition. A revised permit, containing the new conditions, will be issued to the permit holder. Where the permit condition relates to the method of demonstrating compliance with the permit's allowable emission rate, as when a special condition limits throughput and requires recordkeeping in place of direct measurement of the emissions, a new or revised method must be provided with the notification. The revised permit will incorporate the new method for determining compliance. Please note that the qualified facility changes cannot be used to make changes to procedures regarding monitoring, determination of emissions, and recordkeeping that are required by a permit (§ 116.116(e)(7)(B)).

If a facility is authorized by standard permit, the representations made are limitations under which the authorization was granted (§116.615(2)). Any change (e.g., limits on the throughput, production levels, or fuel usage) requires a permit revision showing how the change affects emissions, continues to meet the conditions of the standard permit, and does not make changes to procedures regarding monitoring, determination of emissions, and recordkeeping that are required by the standard permit.

If a facility is authorized by a PBR, any changes must be made enforceable through a certification. The supporting documentation must show the emission rates affected, that the facility continues to meet the conditions of the PBR, and does not make changes to procedures regarding monitoring, determination of emissions, and recordkeeping that are required by the PBR.

In some cases, sites will be adding control equipment to meet the requirements of a qualified facility. Pollution control devices may be authorized under the PCP standard permit if all requirements are met.

There has been no change to the permit or standard permit revision process, the PBR certification process, or the PCP standard permit review process as a result of SB 1126. These requests should be submitted in conjunction with submittal of the Form PI-E.

The following notification and application procedures apply:

1. A Form PI-E must be submitted for all regulatory claims under §116.116(e). Documentation supplied with the Form PI-E must include demonstrations that the change will not adversely affect ambient air quality, as required by 116.116(e)(5)(E).
2. Owner or operators of facilities authorized by PBR shall submit or update certain facility emission limits and make them enforceable through submission of a PI-CERT form and supporting documentation.
3. Owners or operators of facilities authorized by standard permit shall submit an update with new emissions rates to the representations in the standard permit registration.
4. Owners or operators of facilities authorized under §§ 116.110 - 116.111 shall

- submit an application for permit revision (§116.116(c)) and obtain approval before the qualified facility change occurs.
5. Owners or operators of facilities which are adding control devices shall submit an application for a PCP Standard permit (§ 116.617) or other appropriate authorization application.

V. Qualifying BACT

A. Determination

For a facility to be a qualified facility on the basis of using BACT, the facility must use a control method that is at least as effective as the BACT that would have been required in a permit review 120 months before the change occurs. To facilitate the determination of whether a facility is using qualifying BACT, the agency has developed and maintained a list of [historical BACT requirements](#) for different facility types. It is also recommended that owners and operators contact APD to confirm the appropriate level of qualifying BACT. If a facility uses a control method that is not on the list, the TCEQ must make a case-by-case determination as to whether the control method is qualifying BACT. The agency will update this list as additional information becomes available and as case-by-case determinations of qualifying BACT are made.

If a case-by-case determination is required, the owner or operator will be required to demonstrate that the control method used achieves an emission rate or level that is at least equivalent to the BACT on the list. If there is no BACT on the list for comparison, then the owner/operator could conduct a file search of permits for facilities similar to the facility for which the determination is sought, and seek agency concurrence. In the extreme situation, the owner/operator could be asked to prepare a BACT analysis equivalent to what would be required for a permit.

B. Installation of Qualifying BACT

The legislative intent was that if a facility does not satisfy either the permit or BACT criteria to be a qualified facility, and additional controls are installed for the purpose of making the facility a qualified facility, the additional controls must be equivalent to BACT requirements in effect at the time the new controls are added. It would not be acceptable to implement just the BACT requirements for a permit issued 120 months before the change.

Since additional controls may be installed for reasons other than to qualify a facility, in some situations it may be necessary to inquire into the purpose for the installation of additional controls. If additional controls were installed for reasons other than to make a facility a qualified facility (e.g., to comply with RACT requirements or to comply with a Commission order), it is not necessary that the controls were current BACT at the time of installation in order to make the facility a qualified facility. It is only necessary that the controls are equivalent to the BACT required 120 months before the change. If the additional controls were not current BACT at the time of installation, the owner or operator must demonstrate that the additional controls were installed for reasons other than to make the facility a qualified facility.

The installation of additional controls is subject to Chapter 116 and, depending on the nature of the control method, may require a permit, a standard permit, PBR, or no approval. For example, a flare, thermal oxidizer or any other combustion device is a facility that requires authorization, such as a permit amendment or Pollution Control Project Standard Permit.

VI. Acceptable Emissions

Under SB 1126, the allowable or actual emissions for a qualified facility is the basis for determining whether a physical or operational change is a modification, and the rules define which must be used based on the type of authorization of the facility?

A. Facilities Permitted Under §116.111

For a facility that has a permit that contains a Maximum Allowable Emission Rates Table (MAERT), the allowable emissions are the rates contained in the MAERT.

For all qualified facility project purposes, any emission rate under a permit must be an allowable value, and the permit simultaneously revised for representation and emission changes. (§116.116(e)(4)(B)).

B. Facilities Constructed under Permits by Rule

For a facility constructed under PBR, the allowable is the lesser of any one of the following:

1. The emission rates allowed in 30 TAC § 106.4(a): 250 tons per year (tpy) of carbon monoxide (CO) or nitrogen oxides (NO_x); 25 tpy of volatile organic compounds (VOC), sulfur oxides (SO₂); 15 tpy of inhalable particulate matter (PM₁₀); 10 tpy of particulate matter less than 4 microns (PM_{2.5}); or 25 tpy of any other air contaminant.
2. An emission rate established by a condition in a specific PBR.
3. An enforceable emission rate established on a PI-CERT form under § 106.6 (certification).

For all qualified facility project purposes, any emission rate under a PBR must be an actual value, and the PBR simultaneously updated with certified emission changes (§116.116(e)(4)(C)).

C. Facilities Authorized by Standard Permits

For a facility authorized by standard permit, the allowable emission rate is the rate represented in the registration. General conditions for standard permits in § 116.615 make the emission allowable calculated using the representations in the standard permit registration binding.

For all qualified facility project purposes, any emission rate change must be an allowable value, and the standard permit simultaneously revised for representation and emission changes (§116.116(e)(4)(C)).

VII. Interchanges and Intra-plant Trading

A. Interchanges

In determining whether a physical or operational change results in a net increase in allowable emissions of any air contaminant or the emissions of a new air contaminant, a decrease in emissions of one compound may be interchanged with an increase in emissions of another compound, provided both compounds are

within the same air contaminant category. An air contaminant category is a group of related compounds such as VOC, PM, NO_x, or sulfur compounds. Please note that compounds from different categories may not be interchanged (e.g., VOCs cannot be used to interchange with PM).

The method of interchange will depend on whether the allowable emissions relevant to the change are for an individual compound or are for an air contaminant category. For some changes there will be allowable emissions for both individual compounds and air contaminant categories. In these situations, the change will have to satisfy the criteria for each type of allowable emission.

A compound will be determined as a VOC according to the definition in 30 TAC § 101.1, which is an incorporation of the EPA definition of VOC. The amendments of September 2010 provide an exception. Compounds that were once listed by EPA as a VOC but were removed from the definition based on their low photo reactivity can be interchanged with compounds currently listed. This is a one-way transaction, and current VOCs may not be interchanged with lower reactivity VOCs.

1. Individual Compounds

If a change will increase the emissions of an individual compound above the allowable emissions for that compound, the increase can be offset by an equivalent decrease in emissions of the same compound to achieve the result of no net increase in allowable emissions.

If, instead, a decrease in emissions of another compound will be interchanged to offset the increase, the decrease in emissions of the other compound must be adjusted by the ratio of the effects screening levels (ESL) of the two compounds to ensure that the environmental effects are relatively equivalent. In essence, if the ESL for compound B is two times the ESL for compound A, then a decrease of two pounds of compound B will be required to offset every one pound increase of compound A.

The formula for making this interchange is as follows:

$$E_B = (ESL_B/ESL_A)E_A$$

Where:

E_A = Increase in emissions of compound A above the allowable emissions for compound A (i.e., the amount that must be offset).

E_B = Decrease in emissions of compound B required to interchange with E_A

ESL_A = Effects Screening Level value for compound A

ESL_B = Effects Screening Level value for compound B.

If an increase in emissions of a compound will be offset by decreases of the same compound, the formula results in $E_B = E_A$ because the ESL values will be the same.

The ESL values must be for the same time period as the relevant allowable emissions. For example, if the allowable emissions are hourly rates (e.g., pounds per hour), then use of an hourly ESL is required. If the required ESL

has not yet been published, it may be obtained from the TCEQ Toxicology Division.

Example 1: A facility has allowable emissions for hexane of 100 pounds per hour. Hexane has an hourly ESL value of 6200 µg/m³. A change to the facility will increase emissions of hexane from 80 pounds per hour to 125 pounds per hour, which would be 25 pounds per hour above the allowable emissions. To achieve the result of no net increase in allowable emissions, a decrease in hexane emissions at the same or other facilities that total 25 pounds per hour could be used.

Hexane current allowable rate = 100 lb/hr

Hexane proposed allowable rate = 125 lb/hr

Change in hexane allowable rate = 25 lb/hr

No net increase in allowable emissions is allowed, so a reduction of 25 lb/hr is required at the same or other facilities is required.

Example 2: Instead of hexane decreases, the owner or operator wishes to decrease benzene emissions to offset the hexane increase. Benzene has an hourly ESL of 170 µg/m³. Using the formula, a decrease of 0.69 pounds per hour [(170/6200) x 25] in benzene would be required to offset the 25 pounds per hour increase in hexane emissions.

Hexane current allowable rate = 100 lb/hr

Hexane proposed allowable rate = 125 lb/hr

Change in hexane allowable rate = 25 lb/hr

Short term hexane ESL = 6200 µg/m³

Short term benzene ESL = 170 µg/m³

The required benzene emission rate reduction would be

$$\frac{X \text{ lb/hr}}{25 \text{ lb/hr}} = \frac{170 \text{ µg/m}^3}{6200 \text{ µg/m}^3} \quad X \text{ lb/hr} = \frac{170 \text{ µg/m}^3}{6200 \text{ µg/m}^3} \times 25 \text{ lb/hr}$$

The equation shows that a decrease of 0.69 pounds per hour benzene is needed for the 25 lb/hr increase in hexane. Note, however, that there can be no net increase in allowable emissions for the air contaminant category. Thus, if the only VOC reductions are to come from a reduction in benzene emissions, there must be a reduction of 25 pounds per hour of benzene to offset the increase of 25 pounds per hour of VOC.

As of the 2015 [ESL list](#) (and carried forward in the TAMIS database), not all species have an ESL. For many PM species the ESL is now “Must Meet NAAQS.” This is intended to alleviate the need for a toxicology review. For these species if the site meets the NAAQS, the impact for the species will be of no concern since any ESL assigned would be higher than the NAAQS on an averaging period adjusted basis. If a species which is part of a trade no longer has an ESL, the Toxicology Division allows for a value of 150 to be used for the short-term analysis and 12.5 for the annual analysis.

2. Air Contaminant Categories

If a change will increase the emissions of an air contaminant category above the allowable emissions for that category, the increase can be offset by a decrease in emissions of the same individual compound that will increase as a result of the change or by decreases in one or more other individual compounds within the same air contaminant category to achieve the result of no net increase in allowable emissions. Since the allowable emissions are for the air contaminant category, there is no adjustment based on ESL values of the individual compounds within the air contaminant category. In other words, an equal amount of any other individual compound within the same air contaminant category must be used.

Example: *The facility in the example above also has allowable emissions for VOC of 1,000 pounds per hour. The same change that will increase hexane emissions from 80 pounds per hour to 125 pounds per hour will also result in an increase of VOC emissions from 980 pounds per hour to 1,025 pounds per hour, which would be 25 pounds per hour above the allowable emissions for VOC. Since there is no adjustment based on ESL values, if a decrease in benzene emissions will be used to offset the increase, it will require a decrease of 25 pounds per hour and not just the 0.69 pounds per hour decrease required to achieve no net increase in the allowable emissions for hexane.*

VOC current allowable rate = 1,000 lb/hr

VOC proposed allowable rate = 1,025 lb/hr

Change in VOC allowable rate = 25 lb/hr

No net increase in allowable emissions is allowed, so a reduction of 25 lb/hr VOC (benzene) is required at the same or other facilities.

B. Intra-plant Trading

To achieve the result of no net increase in allowable emissions, the owner or operator can make emission reductions at the same facility at which the change will occur. The owner or operator also has the option to make emission reductions at another qualified facility at the same account (site) and trade these reductions to the facility to be changed (i.e., make an intra-plant trade).

If the intra-plant trade involves a different individual compound than the individual compound for which an offset is required, this is also an interchange and the procedure discussed above must be used to determine the required reduction.

In accordance with §116.116(e)(5)(E), the qualified facility changes must demonstrate no adverse effect on ambient air quality. This justification must be included in the documentation submitted with the Form PI-E. Depending on the location of the facilities at the site, additional information and demonstration may be required by the TCEQ during the review and may including modeling.

VIII. Examples and Frequently Asked Questions

A. Treatment of Emissions from Units that have been Shutdown

Emissions from shutdown facilities may be used in trading only if the shutdown facility would be a qualified facility at the time of the change and is still listed on the permit MAERT. For shutdown facilities that have received a permit or permit amendment within 120 months prior to the change, netting is based on allowable emissions. If the shutdown facility has not received a permit or permit amendment within 120 months prior to the change, trading is based on actual emissions.

B. Permit by Rule

For facilities that have received a permit or permit amendment in the last 120 months but have increased emissions pursuant to a PBR, the amount of emissions used in netting calculations is the permit/permit amendment allowable plus the actual certified emissions authorized by the PBR.

If construction of the facility was originally authorized by PBR, the netting can occur from the reduction in the actual emissions for a PBR facility as long as the facility is qualified and the emissions are certified. In some cases, the PBR Registration will also have to be revised or voided to indicate shutdowns have occurred.

C. Standard Permits

If a facility (or group of facilities) is authorized by standard permit, the netting can occur from the reduction in the actual emissions as long as the facility is qualified. Simultaneous to any PI-E application and project, the company should revise the standard permit registration for all associated qualified facility representation updates and any applicable maximum emission rate table changes. In some cases, the standard permit registration will have to be voided to establish shutdowns have occurred.

D. Qualified Changes under Combinations of Permits, Standard Permits and PBRs

In some cases, a project may include units authorized under a combination of permits, standard permits, and PBRs. These situations may be for several different qualified facilities, each covered separately under permit, standard permit, or PBR. The situations may also include permitted facilities with additional changes subsequently authorized by standard permit or PBR that have not yet been fully incorporated into the permit.

Rule §116.116(e)(4)(B) instructs the facility emissions covered under permits to use increases and decreases of allowable emissions. However, rule §116.116(e)(4)(C) states that decreases (and increases) for facility emissions under other authorization types (PBRs) must use actual emission changes.

Any application which includes a combination of authorizations must be accompanied by any applicable permit revision.

E. Use and Accumulation of Credits

The terms netting, banking, and credits in this document should not be confused with the traditional use of these terms in federal permitting. None of these terms used for qualified facility changes are part of the [Emissions Banking and Trading](#)

Programs and are not emissions credit reductions (ERCs). It is important to note that once a reduction (credit) is used for any purpose, it is no longer valid to be used again for any other purpose (i.e., reductions used for qualified facilities may not also be used to generate ERCs).

A reduction in emissions remains valid until it is used or until it expires (i.e., until the facility loses its qualified status). Once a reduction is used, it is not available for use again although any excess reduction is available until it is no longer within 120 months of changes being made at a facility. In order to net, the facilities involved in the netting must come from the same TCEQ account number (or Regulated Entity Number) and must be qualified at time of use. Additionally, the reductions cannot have occurred more than 120 months prior to a change.

Facilities may accumulate emissions reductions over time in order to be used in trading when other increases are made at a plant site. For verification purposes, it will be necessary for facilities to track these emission reductions. The TCEQ will not review the quantification of reductions or the accumulation of reductions until they are to be used to negate an emissions increase.

F. How RACT Controls Affect Qualification

Since additional controls may be installed for reasons other than to qualify a facility, in some situations it may be necessary to inquire into the reasons for the installation of additional controls. If additional controls were installed for reasons other than to make a facility qualified (e.g., to comply with RACT, NSPS, or MACT requirements which can be less stringent than BACT), it is not necessary that the controls were current BACT at the time of installation. It is only necessary that the controls be equivalent to the BACT required 120 months before the time the change will occur. If the additional controls were not current BACT at the time of installation, the owner/operator must demonstrate that the additional controls were installed for reasons other than to make the facility a qualified facility. The owner could make this demonstration by identifying the specific rules under which the controls were installed.

APPENDIX A

Summary of 2010 Amendments

In April 2010, the EPA issued notice that the original amendments to Chapter 116, adopted in 2000 to implement SB 1126, were not approved as an amendment to the SIP.

EPA stated that the primary reasons for the disapproval were the rules did not:

- Ensure that the qualified facility program was limited to minor changes only and could not be used to circumvent major new source review (NSR).
- Ensure that the federal definition of best available control technology (BACT) was applied for major NSR.
- Ensure that the changes under the qualified facility program were enforceable.
- Ensure there was no net gain in allowable emissions.
- Ensure changes under the program could only occur within a site.

Following TCEQ publication of proposed rules to address these EPA identified deficiencies, the EPA commented that existing rule language implied the continued existence of grandfathered facilities and that the interchanges of emissions of substances of the same category should be restricted in the case of sulfur compounds and particulate matter 10 microns or less in diameter (PM₁₀) and particulate matter 2.5 microns or less in diameter (PM_{2.5}).

In September 2010, the TCEQ adopted amendments to Chapter 116 to address all these issues (35 Texas Register 8944 – 8965). The principal rule changes were:

- Require a determination from the facility owner/operator to show the proposed changes do not require major NSR review using actual emissions in the baseline determination (§§ 116.116(e)(1)(B) and (e)(11)).
- Submittal of PI-E form prior to any change taking place. All changes under the qualified facility program require prior notification and approval (§ 116.116(e)(2)(A)-(E)).
- Clarify that facilities without active authorizations cannot qualify to use this flexibility (i.e., no unpermitted grandfathered facilities) under § 116.116(e)(1)(A). Also, removed language from the definition of “modification of existing facility” that referred to “whether a facility had received a permit” (§116.10(9)(D)(ii)). This language was applicable to grandfathered facilities which were required to obtain NSR permits by March 2008. Section 116.118 which applied to pre-change qualification for grandfathered facilities was repealed.
- Facilities authorized under permits or standard permits would be required to submit an application for permit “revision” under § 116.116(e)(2)(A). Facilities authorized by PBR need to submit or update an emissions certification.
- Justify the rule requirements for the interchange of emissions, by requiring a demonstration that all interchanges for qualified facilities must demonstrate to not adversely affect air quality (§§ 116.116(e)(4)(A)-(C) and 116.116(e)(5)(A)-(F)). The mandatory notification will allow the commission to evaluate any potential off-property effects relating to all contaminants, including those subject to NAAQS.
- Added anti-backsliding provision for emission controls (§ 116.116(e)(10)).
- Addressed terms and definitions, particularly: facility; site; account; and their relation to federal terms.

Appendix B
Exempt Solvent List (as of 09/07/2015)
 40 CFR 51.100(s)

Volatile organic compounds (VOC) means any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions.

This includes any such organic compound other than the following, which have been determined to have negligible photochemical reactivity:

| CAS No. | Air Contaminant Name |
|----------------|--|
| 506-87-6 | ammonium carbonate |
| 124-38-9 | carbon dioxide |
| 630-08-0 | carbon monoxide |
| ---- | carbonic acids – U |
| ---- | metallic carbides – U |
| ---- | metallic carbonates – U |
| 74-82-8 | Methane |
| 74-84-0 | Ethane |
| 75-09-2 | methylene chloride (dichloromethane) |
| 71-55-6 | 1,1,1-trichloroethane (methyl chloroform) |
| 76-13-1 | 1,1,2-trichloro-1,2,2-trifluoroethane (CFC-113) |
| 75-69-4 | trichlorofluoromethane (CFC-11) |
| 75-71-8 | dichlorodifluoromethane (CFC-12) |
| 75-45-6 | chlorodifluoromethane (HCFC-22) |
| 75-46-7 | trifluoromethane (HFC-23) |
| 76-14-2 | 1,2-dichloro 1,1,2,2-tetrafluoroethane (CFC-114) |
| 76-15-3 | chloropentafluoroethane (CFC-115) |
| 306-83-2 | 1,1,1-trifluoro 2,2-dichloroethane (HCFC-123) |
| 811-97-2 | 1,1,1,2-tetrafluoroethane (HFC-134a) |
| 1717-00-6 | 1,1-dichloro 1-fluoroethane (HCFC-141b) |
| 75-68-3 | 1-chloro 1,1-difluoroethane (HCFC-142b) |
| 2837-89-0 | 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124) |

| CAS No. | Air Contaminant Name |
|-------------|--|
| 354-33-6 | pentafluoroethane (HFC-125) |
| 359-35-3 | 1,1,2,2-tetrafluoroethane (HFC-134) |
| 420-46-2 | 1,1,1-trifluoroethane (HFC-143a) |
| 75-37-6 | 1,1-difluoroethane (HFC-152a) |
| 98-56-6 | parachlorobenzotrifluoride (PCBTF) |
| ---- | cyclic, branched, or linear completely methylated siloxanes |
| 67-64-1 | acetone |
| 127-18-4 | perchloroethylene (tetrachloroethylene) |
| 422-56-0 | 3,3-dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca) |
| 507-55-1 | 1,3-dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb) |
| 138495-42-8 | 1,1,1,2,3,4,4,5,5,5-decafluoropentane (HFC 43-10mee) |
| 75-10-5 | difluoromethane (HFC-32) |
| 353-36-6 | ethylfluoride (HFC-161) |
| 690-39-1 | 1,1,1,3,3,3-hexafluoropropane (HFC-236fa) |
| 679-86-7 | 1,1,2,2,3-pentafluoropropane (HFC-245ca) |
| 24270-66-4 | 1,1,2,3,3-pentafluoropropane (HFC-245ea) |
| 431-31-2 | 1,1,1,2,3-pentafluoropropane (HFC-24b) |
| 460-73-1 | 1,1,1,3,3-pentafluoropropane (HFC-245fa) |
| 431-63-0 | 1,1,1,2,3,3-hexafluoropropane (HFC-236ea) |
| 406-58-6 | 1,1,1,3,3-pentafluorobutane (HFC-365mfc) |
| 593-70-4 | chlorofluoromethane (HCFC-31) |
| 1615-75-4 | 1 chloro-1-fluoroethane (HCFC-151a) |
| 354-23-4 | 1,2-dichloro-1,1,2-trifluoroethane (HCFC-123a) |
| 163702-07-6 | 1,1,1,2,2,3,3,4,4-nonafluoro-4-methoxy-butane (C ₄ F ₉ OCH ₃ or HFE-7100) |
| 163702-08-7 | 2-(difluoromethoxymethyl)-1,1,1,2,3,3,3-heptafluoropropane ((CF ₃) ₂ CF ₂ OC ₂ H ₅) |
| 163702-05-4 | 1-ethoxy-1,1,2,2,3,3,4,4,4-nonafluorobutane (C ₄ F ₉ OC ₂ H ₅ or HFE-7200) |
| 163702-06-5 | 2-(ethoxydifluoromethyl)-1,1,1,2,3,3,3-heptafluoropropane ((CF ₃) ₂ CF ₂ OC ₂ H ₅) |

| CAS No. | Air Contaminant Name |
|---------------|---|
| 79-20-9 | methyl acetate |
| 375-03-1 | 1,1,1,2,2,3,3-heptafluoro-3-methoxy-propane (n-C3F7OCH3, HFE-7000) |
| 297730-93-9 | 3-ethoxy- 1,1,1,2,3,4,4,5,5,6,6,6-dodecafluoro-2-(trifluoromethyl) hexane (HFE-7500) |
| 431-89-0 | 1,1,1,2,3,3,3-heptafluoropropane (HFC 227ea) |
| 107-31-3 | methyl formate (HCOOCH3) |
| ★ 132182-92-4 | 1,1,1,2,2,3,4,5,5,5-decafluoro-3-methoxy-4-trifluoromethyl-pentane (HFE-7300) |
| 108-32-7 | ♠ propylene carbonate |
| 616-38-6 | dimethyl carbonate |
| 29118-24-9 | <i>trans</i> -1,3,3,3-tetrafluoropropene |
| 540-88-5 | ♠ tertiary butyl acetate (T-butyl acetate) |
| ▼ 1691-17-4 | HCF ₂ OCF ₂ H (HFE-134) |
| ▼ 78522-47-1 | HCF ₂ OCF ₂ OCF ₂ H (HFE-236cal2) |
| ▼ 188690-78-0 | HCF ₂ OCF ₂ CF ₂ OCF ₂ H (HFE-338pcc13) |
| ▼ 188690-77-9 | HCF ₂ OCF ₂ OCF ₂ CF ₂ OCF ₂ H (H-Galden 1040x or H-Galden ZT 130 (or 150 or 180)) |
| ▲ 2730-23-0 | <i>trans</i> 1-chloro-3,3,3-trifluoroprop-1-ene |
| ◆ 754-12-1 | 2,3,3,3-tetrafluoropropene |
| ♣ 124-68-5 | 2-amino-2-methyl-1-propanol |
| ---- | perfluorocarbon compounds which fall into these classes: |
| ---- | (i) Cyclic, branched, or linear, completely fluorinated alkanes; |
| ---- | (ii) Cyclic, branched, or linear, completely fluorinated ethers with no unsaturations; |
| ---- | (iii) Cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations; and |
| ---- | (iv) Sulfur containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine. |

| CAS No. | Air Contaminant Name |
|---------|--|
| ★ | Federal Register /Vol. 72, No. 11, January 18, 2007, Pages, 2193- 2196 |
| ▼ | Federal Register/ Vol 78, No. 29, February 12, 2013, Pages 9823-9828 |
| ▲ | Federal Register Volume 78, Number 167, August 28, 2013, Pages 3029 – 53033 |
| ◆ | Federal Register /Vol. 78, No. 204 October 22, 2013, Pages 62451 -62455 |
| ♣ | Federal Register/ Vol 79, No.59, March 27, 2014, Pages 17037-17043 |
| | (5) The following compound(s) are VOC for purposes of all recordkeeping, emissions reporting, photochemical dispersion modeling and inventory requirements which apply to VOC and shall be uniquely identified in emission reports but are not VOC for purposes of VOC emissions limitations or VOC content requirements: t-butyl acetate. |
| ♠ | Exempt solvents commonly found in coatings, paint strippers and degreasing solutions |