

New and Modified Facilities (effective 10/15/11) Applicability Flowcharts

Subparts 231-5 & 6 Nonattainment (NA) Area NSR

- ❖ Flowchart FC-1: Facility Type/Applicability Determination
- ❖ Flowchart FC-2: Proposed New Facility in an Ozone NA Area or Attainment Portion of the Ozone Transport Region (VOC & NOx)
- ❖ Flowchart FC-3: Proposed New Facility in a PM-10 or PM-2.5 NA Area
- ❖ Flowchart FC-4: Existing Facility Applicability Determination
- ❖ Flowchart FC-5A: Existing Major Facility Modification in a Severe Ozone NA Area (VOC & NOx)
- ❖ Flowchart FC-5B: Existing Major Facility Modification - Special Rules in Severe Ozone NA Area (VOC & NOx)
- ❖ Flowchart FC-6: Existing Major Facility Modification in a PM-10 or PM-2.5 NA Area
- ❖ Flowchart FC-7: Existing Major Facility Modification - Marginal/Moderate Ozone NA Areas or Attainment Portion of the Ozone Transport Region (VOC & NOx)
- ❖ Flowchart FC-8: Existing Non-Major Facility Modification in a Severe Ozone NA Area (VOC & NOx)
- ❖ Flowchart FC-9: Existing Non-Major Facility Modification in a PM-10 or PM-2.5 NA Area
- ❖ Flowchart FC-10: Existing Non-Major Facility Modification - Marginal/Moderate Ozone NA Areas or Attainment Portion of the Ozone Transport Region (VOC & NOx)
- ❖ Flowchart FC-11: Net Emission Increase
- ❖ Flowchart FC-12: Contemporaneous Period Determination for Severe Ozone NA Area (VOC & NOx)
- ❖ Flowchart FC-13: Contemporaneous Period Determination for Marginal/Moderate Ozone NA Areas and Attainment Portion of the Ozone Transport Region (VOC & NOx) or PM-10 or PM-2.5 (Including SO₂ and NOx) NA Areas
- ❖ Flowchart FC-14: Contemporaneous Period Determination for Facilities Using an Alternative Operating Scenario

Subparts 231-7 & 8 Attainment Area NSR (PSD)

- ❖ Flowchart FC-15: Facility Type/Applicability Determination
- ❖ Flowchart FC-16: Proposed New Facility
- ❖ Flowchart FC-17: Existing Facility Modification
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- ❖ Flowchart FC-20: Contemporaneous Period Determination for Facilities Using an Alternative Operating Scenario

New and Modified Facilities (effective 10/15/11) **Applicability Flowcharts**

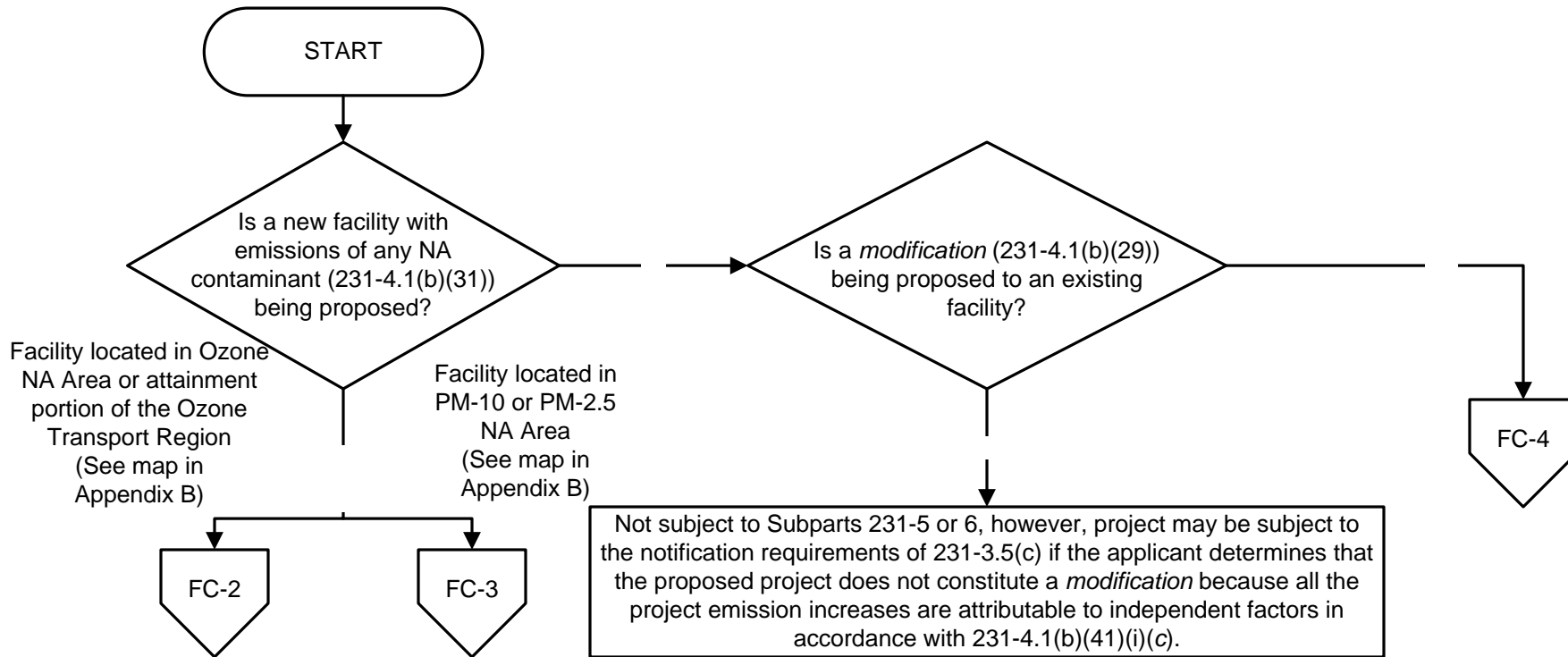
Appendices

- ❖ **Appendix A: Examples**
- ❖ **Appendix B: Maps of Nonattainment Areas in New York**
- ❖ **Appendix C: Nonattainment (NA) Area NSR - Area/Contaminant Classification and Significant Net Emission Increase Thresholds**
- ❖ **Appendix D: Attainment Area (PSD) NSR - Regulated NSR Contaminants, Significant Project/Significant Net Emission Increase Thresholds and Source Category List**
- ❖ **Appendix E: Attainment Area (PSD) NSR - Global Warming Potential Values for Calculating CO₂ Equivalents**

There are four main scenarios that the following flowcharts were based on. These scenarios are presented below along with key points.

- ❖ Nonattainment NSR (Subparts 231-5 & 6)
 - New major or modification to an existing minor facility (Subpart 231-5)
 - Nonattainment contaminants subject to Part 231 are only those with a potential to emit that exceeds the applicable major facility threshold
 - The facility cannot net out of Part 231 since netting is only allowed at existing major facilities
 - Existing major facility (Subpart 231-6)
 - The facility is considered to be major for all nonattainment contaminants and the project emissions are compared to the applicable significant project thresholds
- ❖ Attainment (PSD) NSR (Subparts 231-7 & 8)
 - New major or modification to an existing minor facility (Subpart 231-7)
 - If emissions of one PSD contaminant are greater than the applicable major facility threshold then the facility is considered major for all PSD contaminants and all of the other applicable PSD contaminant project emissions are compared to the applicable significant project threshold
 - Existing major facility (Subpart 231-8)
 - The facility is considered to be major for all PSD contaminants and the project emissions are compared to the applicable significant project thresholds

Subparts 231-5 & 6 Nonattainment (NA) Area NSR Flowchart FC-1: Facility Type/Applicability Determination



Modification (231-4.1(b)(29)). Any physical change in, or change in the method of operation of, a facility which results in a level of annual emissions (not including any emission reductions) in excess of the Baseline Actual Emissions of any Regulated NSR Contaminant emitted by such facility or which results in the emission of any Regulated NSR Contaminant not previously emitted. A modification shall not include the following:

(i) routine maintenance, repair, or replacement as defined in 6 NYCRR Part 200.

(ii) use of an alternative fuel or raw material by reason of an order under sections 2(a) and (b) of the Energy Supply and Environmental Coordination Act of 1974 (or any superseding legislation) or by reason of a natural gas curtailment plan pursuant to the Federal Power Act;

(iii) use of an alternative fuel by reason of an order or rule under section 125 of the Clean Air Act;

(iv) use of an alternative fuel at a steam generating unit to the extent that the fuel is generated from municipal solid waste;

(v) use of an alternative fuel or raw material by a facility which:

(a) the facility was capable of accommodating before January 6, 1975, unless such change would be prohibited under any federally enforceable permit condition which was established after January 6, 1975 pursuant to 40 CFR 52.21 or under regulations approved pursuant to 40 CFR Part 51 Subpart I or 40 CFR 51.166; or

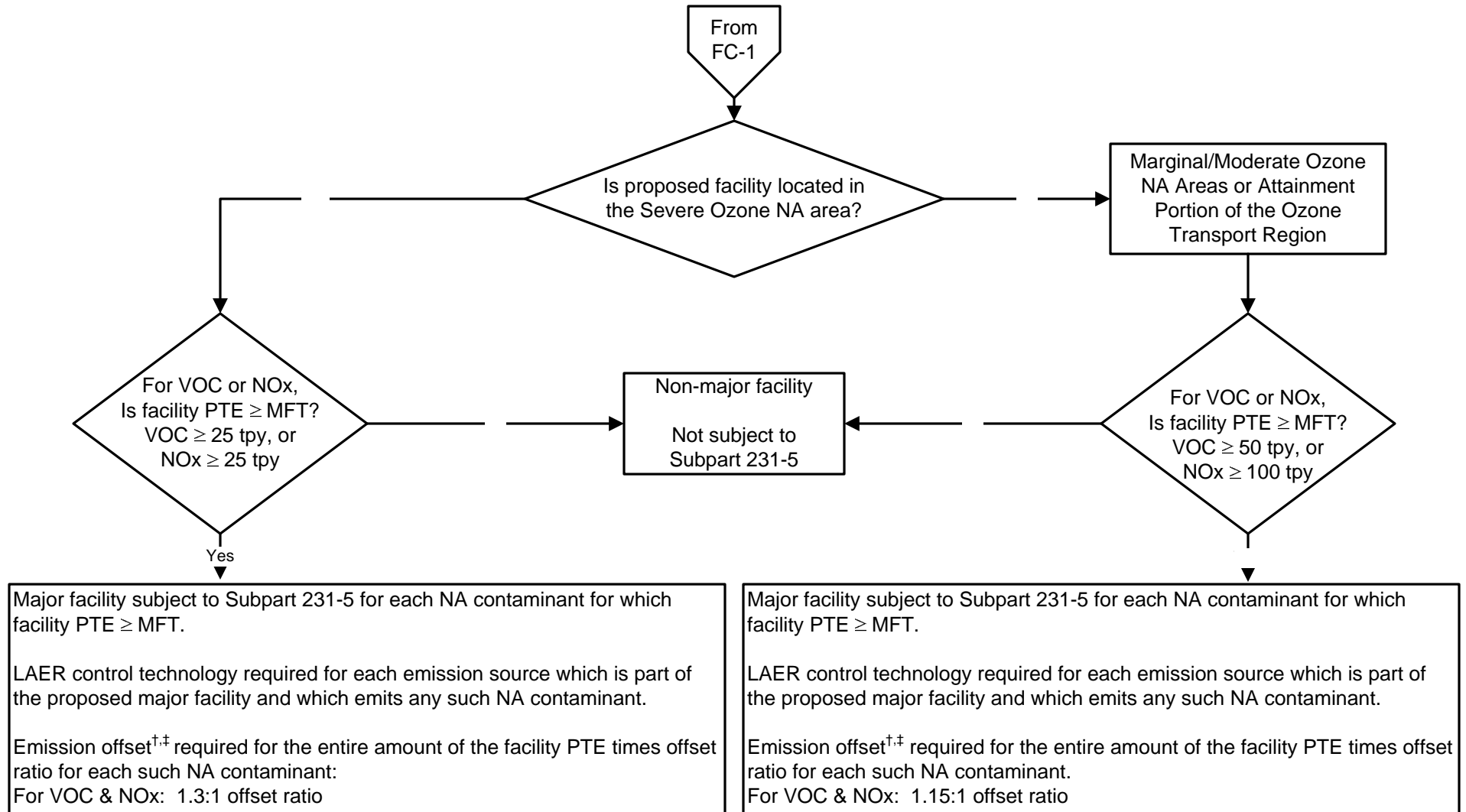
(b) the facility is approved to use, pursuant to this Part, or which is included in a permit issued pursuant to 40 CFR 52.21.

(vi) an increase in the hours of operation or in the production rate, unless such change would be prohibited under any permit condition which was established after January 6, 1975, pursuant to 40 CFR 52.21 or under regulations approved pursuant to 40 CFR Part 51 Subpart I or 40 CFR 51.166;

(vii) any change in ownership at a facility.

**Subpart 231-5
Nonattainment (NA) Area NSR**

**Flowchart FC-2: Proposed New Facility in an Ozone NA Area or Attainment
Portion of the Ozone Transport Region (VOC & NO_x)**

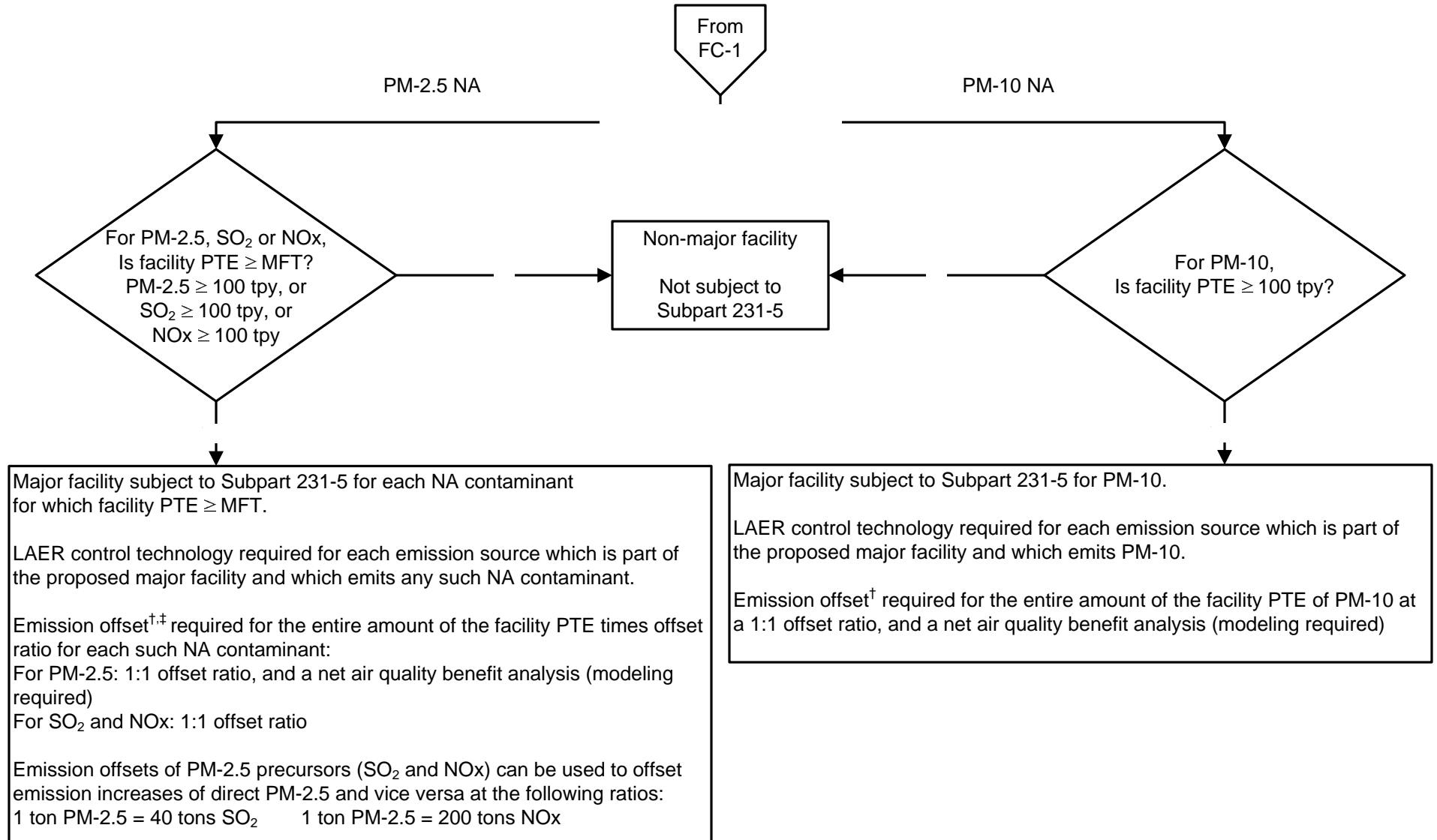


†An emission offset may be obtained from another NA area of equal or higher classification if emissions from such other area contribute to a violation of the National Ambient Air Quality Standard for the NA contaminant in the NA area of the proposed facility (Re: Section 231-5.5)

‡In areas where NO_x is a regulated precursor for ozone and PM-2.5, NO_x offsets that occurred on or after April 5, 2005 can be used to offset NO_x emissions for both programs with the amount determined by the higher offset ratio (Re: subdivision 231-10.1(e))

Key:	
PTE:	Potential To Emit
MFT:	Major Facility Threshold
LAER:	Lowest Achievable Emission Rate

Subpart 231-5 Nonattainment (NA) Area NSR Flowchart FC-3: Proposed New Facility in a PM-10 or PM-2.5 NA Area

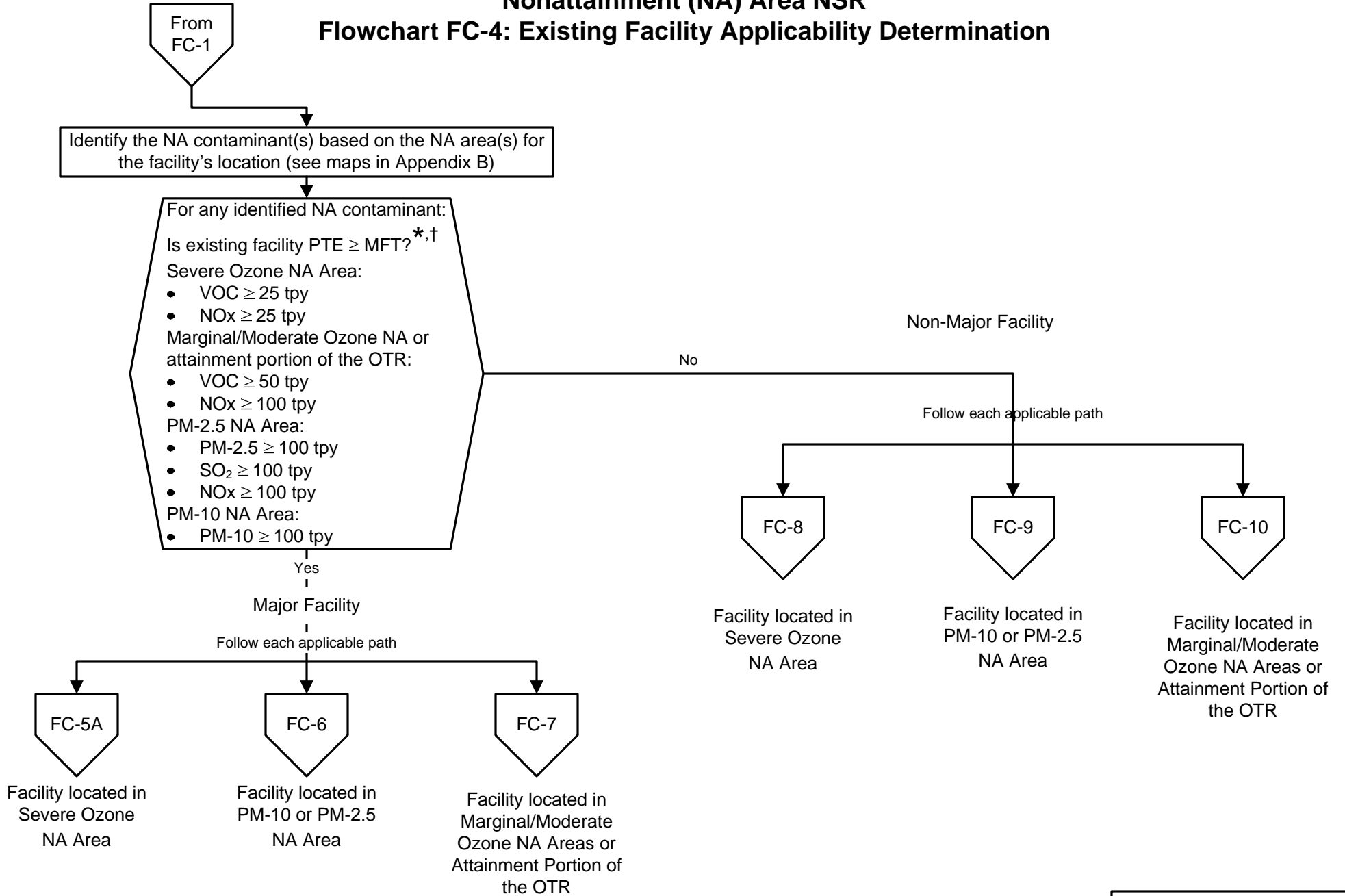


†An emission offset may be obtained from another NA area of equal or higher classification if emissions from such other area contribute to a violation of the National Ambient Air Quality Standard for PM-10 or PM-2.5 in the NA area of the proposed facility (Re: Section 231-5.5)

‡In areas where NOx is a regulated precursor for ozone and PM-2.5, NOx offsets that occurred on or after April 5, 2005 can be used to offset NOx emissions for both programs with the amount determined by the higher offset ratio (Re: subdivision 231-10.1(e))

Key:	
PTE:	Potential To Emit
MFT:	Major Facility Threshold
LAER:	Lowest Achievable Emission Rate

Flowchart FC-4: Existing Facility Applicability Determination

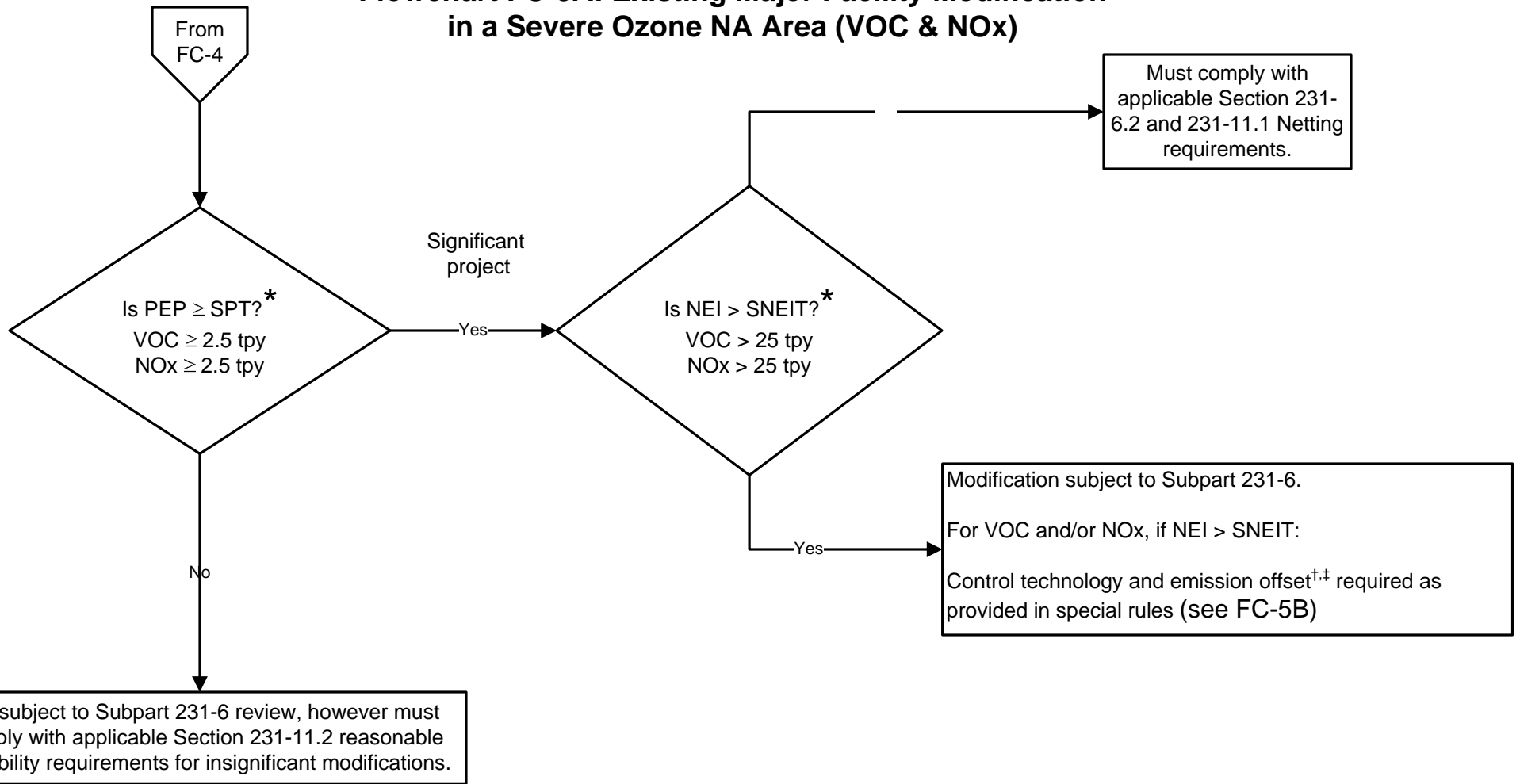


* For a facility in an area that is NA for multiple contaminants, if the facility PTE is greater than or equal to the MFT for one NA contaminant it is considered to be major for all applicable NA contaminants

† See Appendix A for examples

Key:	
PTE:	Potential To Emit
MFT:	Major Facility Threshold
OTR:	Ozone Transport Region

**Subpart 231-6
Nonattainment (NA) Area NSR
Flowchart FC-5A: Existing Major Facility Modification
in a Severe Ozone NA Area (VOC & NO_x)**



* Each NA contaminant is evaluated independently and can result in the need to follow the “yes” path for one and the “no” path for another

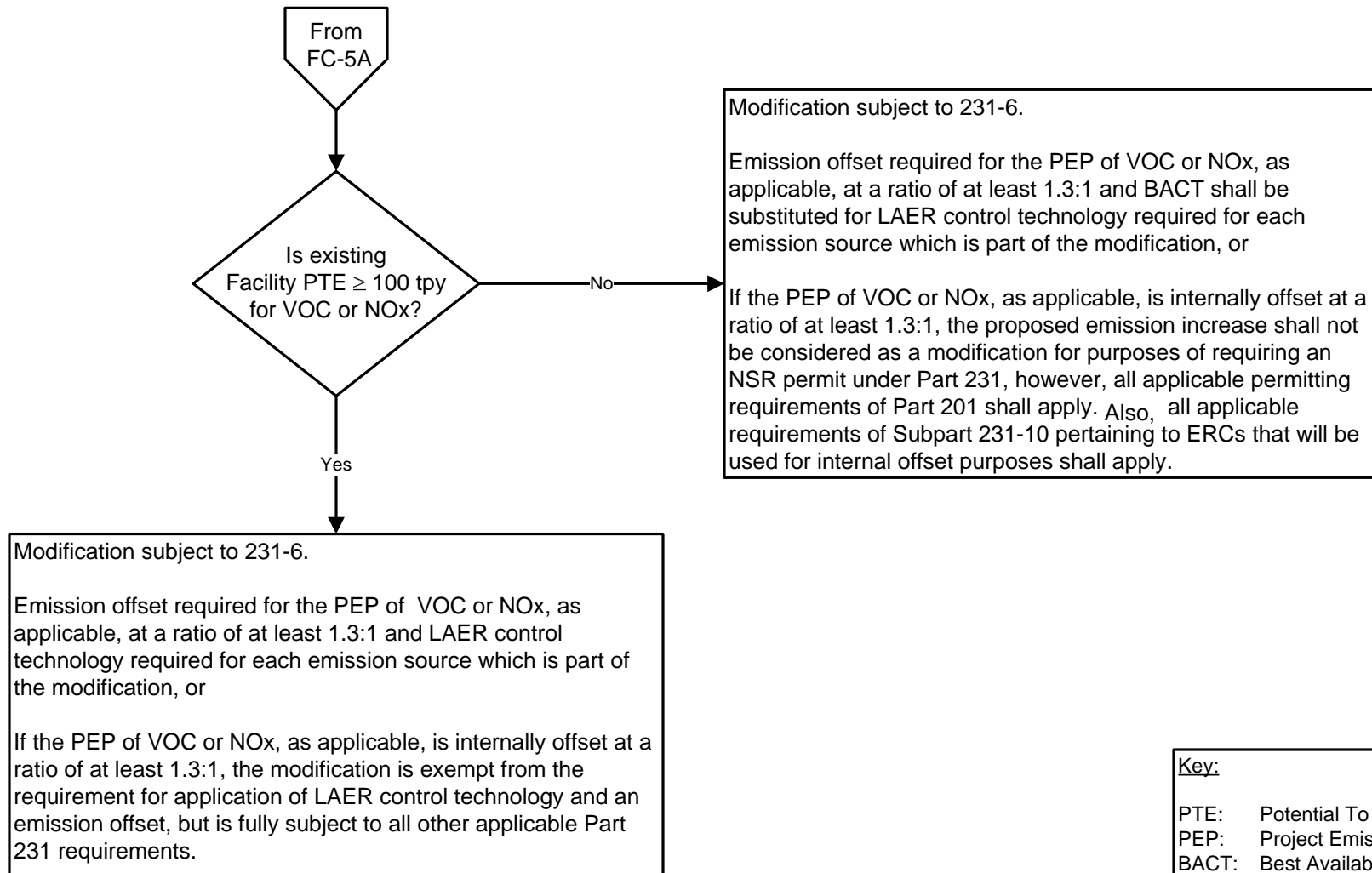
† An offset may be obtained from another NA area of equal or higher classification if emissions from such other area contribute to a violation of the National Ambient Air Quality Standard for the NA contaminant in the NA area of the modification (Re: Section 231-6.6).

‡ In areas where NO_x is a regulated precursor for ozone and PM-2.5, NO_x offsets that occurred on or after April 5, 2005 can be used to offset NO_x emissions for both programs with the amount determined by the higher offset ratio (Re: subdivision 231-10.1(e))

Key:	
PEP:	Project Emission Potential
SPT:	Significant Project Threshold
NEI:	Net Emission Increase
SNEIT:	Significant Net Emission Increase Threshold

**Subpart 231-6
Nonattainment (NA) Area NSR**

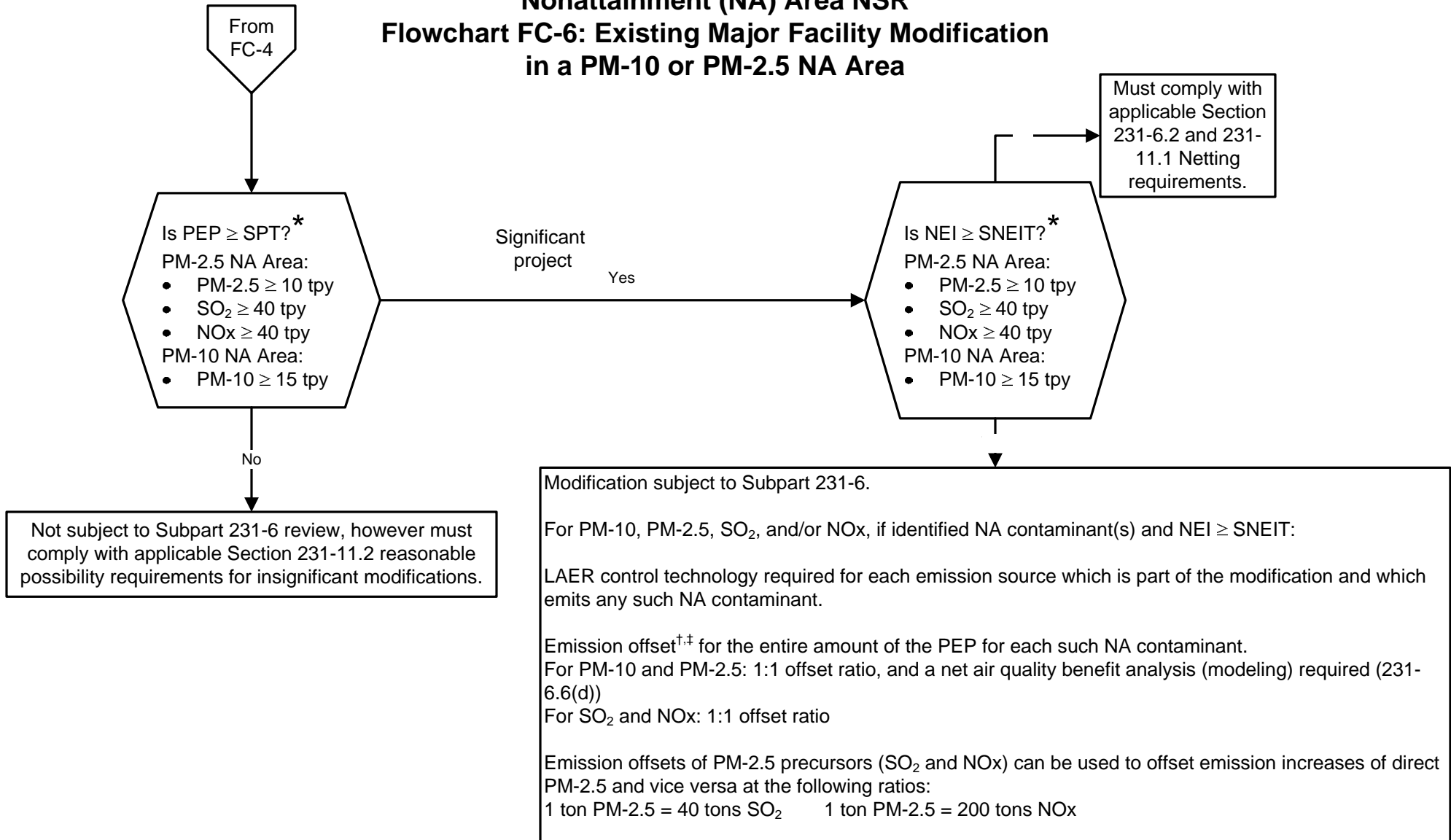
**Flowchart FC-5B: Existing Major Facility Modification -
Special Rules in Severe Ozone NA Area (VOC & NO_x)**
Re: Subdivision 231-6.1(d) (for a modification where NEI > SNEIT for VOC or NO_x)



Key:

PTE:	Potential To emit
PEP:	Project Emission Potential
BACT:	Best Available Control Technology
LAER:	Lowest Achievable Emission Rate
ERC:	Emission Reduction Credits

Subpart 231-6 Nonattainment (NA) Area NSR Flowchart FC-6: Existing Major Facility Modification in a PM-10 or PM-2.5 NA Area



* Each NA contaminant is evaluated independently and can result in the need to follow the “yes” path for one and the “no” path for another

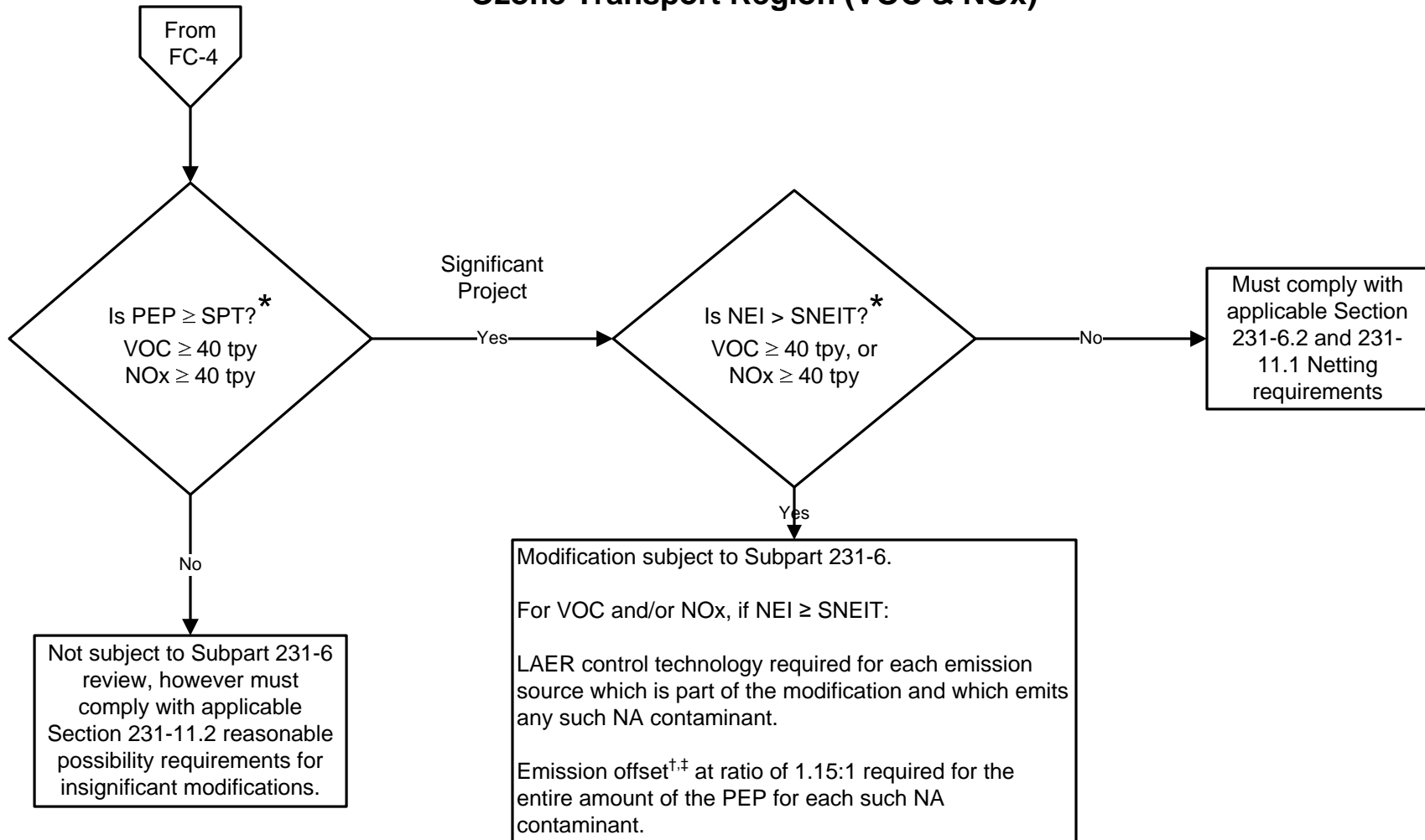
† An emission offset may be obtained from another NA area of equal or higher classification if emissions from such other area contribute to a violation of the National Ambient Air Quality Standard for PM-10 or PM-2.5 in the NA area of the proposed facility (Re: Section 231-6.6)

‡ In areas where NOx is a regulated precursor for ozone and PM-2.5, NOx offsets that occurred on or after April 5, 2005 can be used to offset NOx emissions for both programs with the amount determined by the higher offset ratio (Re: subdivision 231-10.1(e))

Key:	
PEP:	Project Emission Potential
SPT:	Significant Project Threshold
NEI:	Net Emission Increase
SNEIT:	Significant Net Emission Increase Threshold
LAER:	Lowest Achievable Emission Rate

**Subpart 231-6
Nonattainment (NA) Area NSR**

**Flowchart FC-7: Existing Major Facility Modification - Marginal/Moderate
Ozone NA Areas or Attainment Portion of the
Ozone Transport Region (VOC & NOx)**



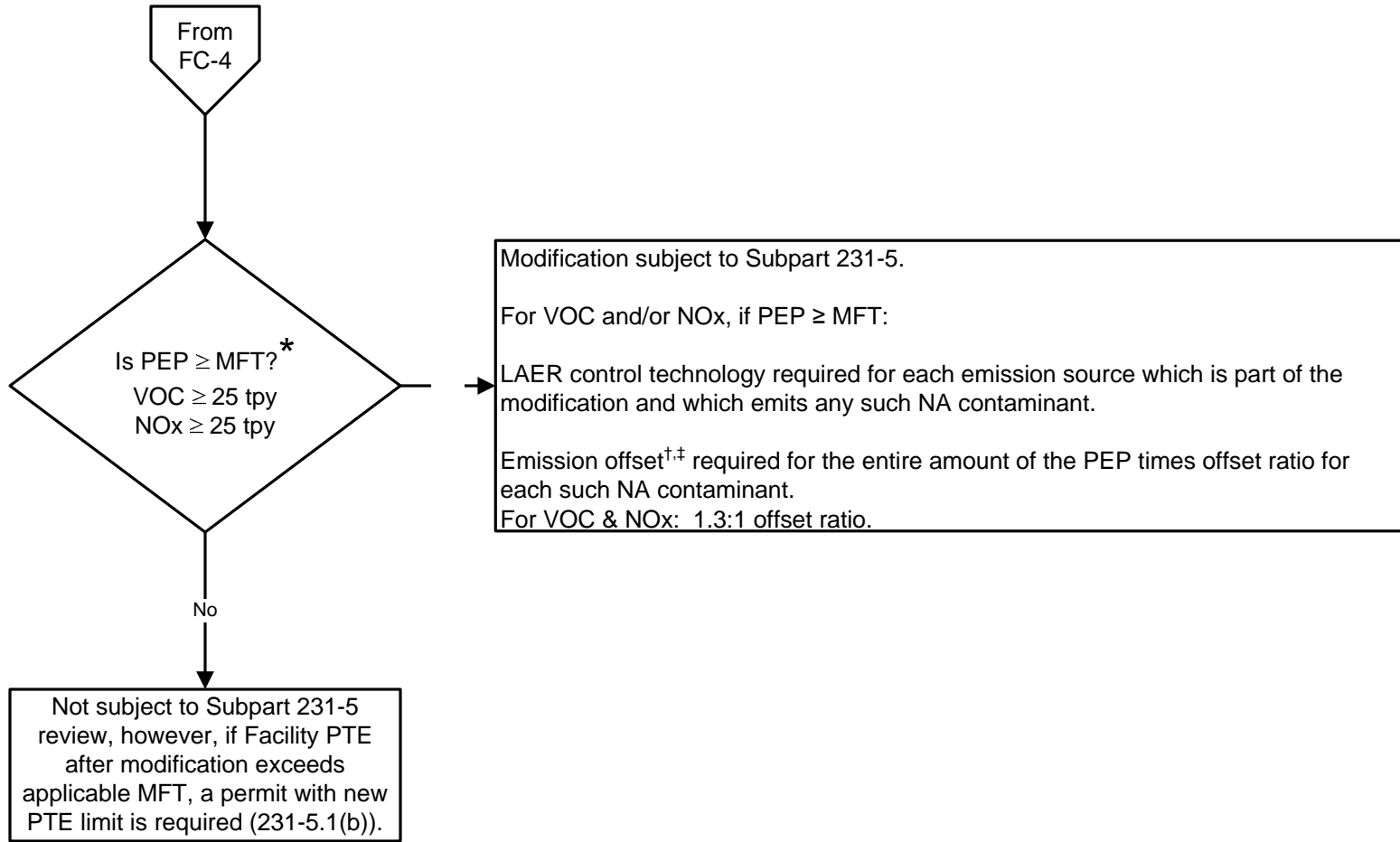
* Each NA contaminant is evaluated independently and can result in the need to follow the “yes” path for one and the “no” path for another

† An offset may be obtained from another NA area of equal or higher classification if emissions from such other area contribute to a violation of the National Ambient Air Quality Standard for the NA contaminant in the NA area of the modified facility (Re: Section 231-6.6).

‡ In areas where NOx is a regulated precursor for ozone and PM-2.5, NOx offsets that occurred on or after April 5, 2005 can be used to offset NOx emissions for both programs with the amount determined by the higher offset ratio (Re: subdivision 231-10.1(e))

Key:	
PEP:	Project Emission Potential
SPT:	Significant Project Threshold
NEI:	Net Emission Increase
SNEIT:	Significant Net Emission Increase Threshold
LAER:	Lowest Achievable Emission Rate

Subpart 231-5
Nonattainment (NA) Area NSR
Flowchart FC-8: Existing Non-Major Facility Modification
in a Severe Ozone NA Area (VOC & NOx)



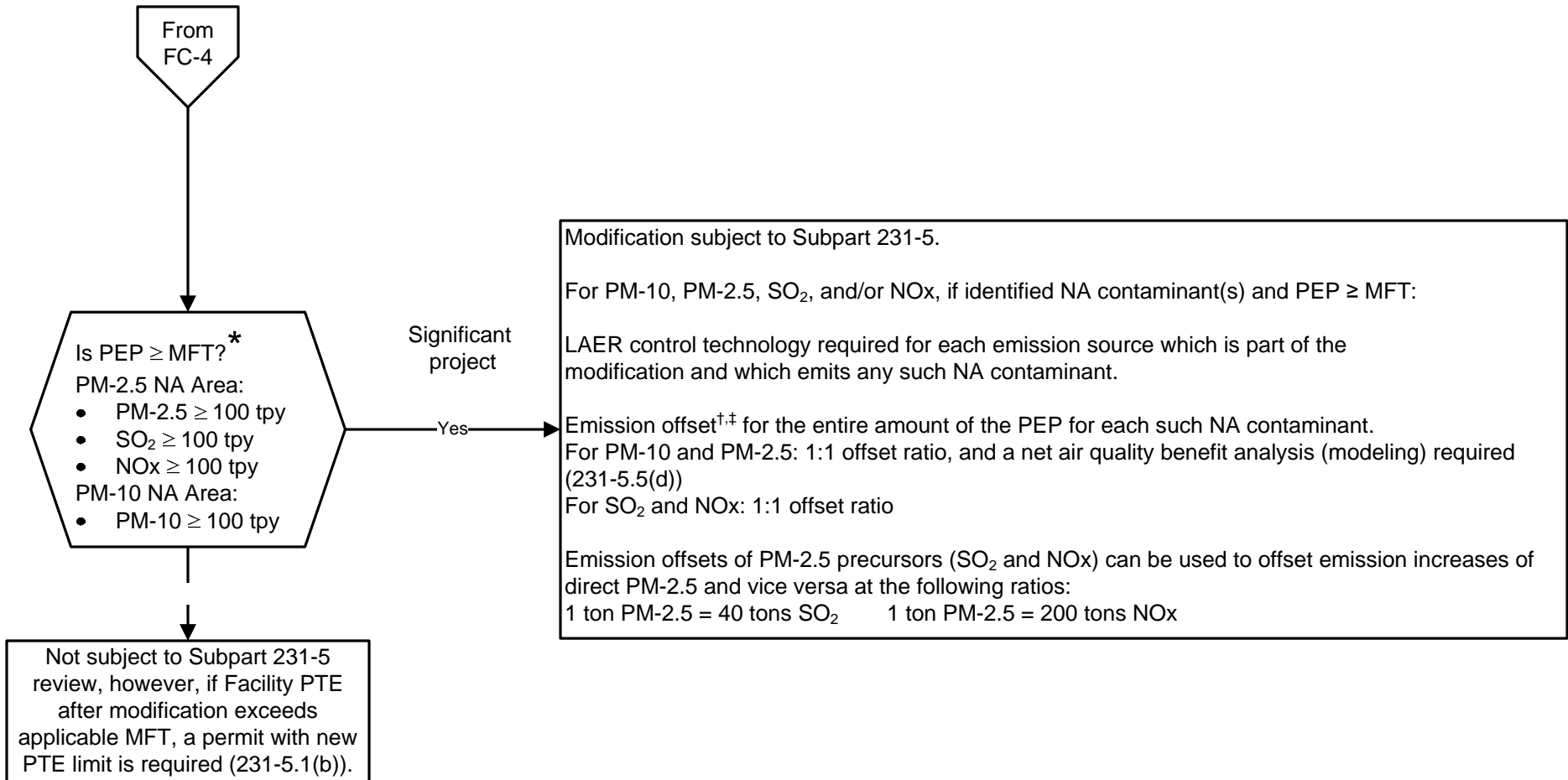
* Each NA contaminant is evaluated independently and can result in the need to follow the “yes” path for one and the “no” path for another

† An offset may be obtained from another NA area of equal or higher classification if emissions from such other area contribute to a violation of the National Ambient Air Quality Standard for the NA contaminant in the NA area of the modification (Re: Section 231-5.5).

‡ In areas where NOx is a regulated precursor for ozone and PM-2.5, NOx offsets that occurred on or after April 5, 2005 can be used to offset NOx emissions for both programs with the amount determined by the higher offset ratio (Re: subdivision 231-10.1(e))

Key:	
PEP:	Project Emission Potential
MFT:	Major Facility Threshold
PTE:	Potential To Emit
LAER:	Lowest Achievable Emission Rate

Subpart 231-5 Nonattainment (NA) Area NSR Flowchart FC-9: Existing Non-Major Facility Modification in a PM-10 or PM-2.5 NA Area



* Each NA contaminant is evaluated independently and can result in the need to follow the “yes” path for one and the “no” path for another

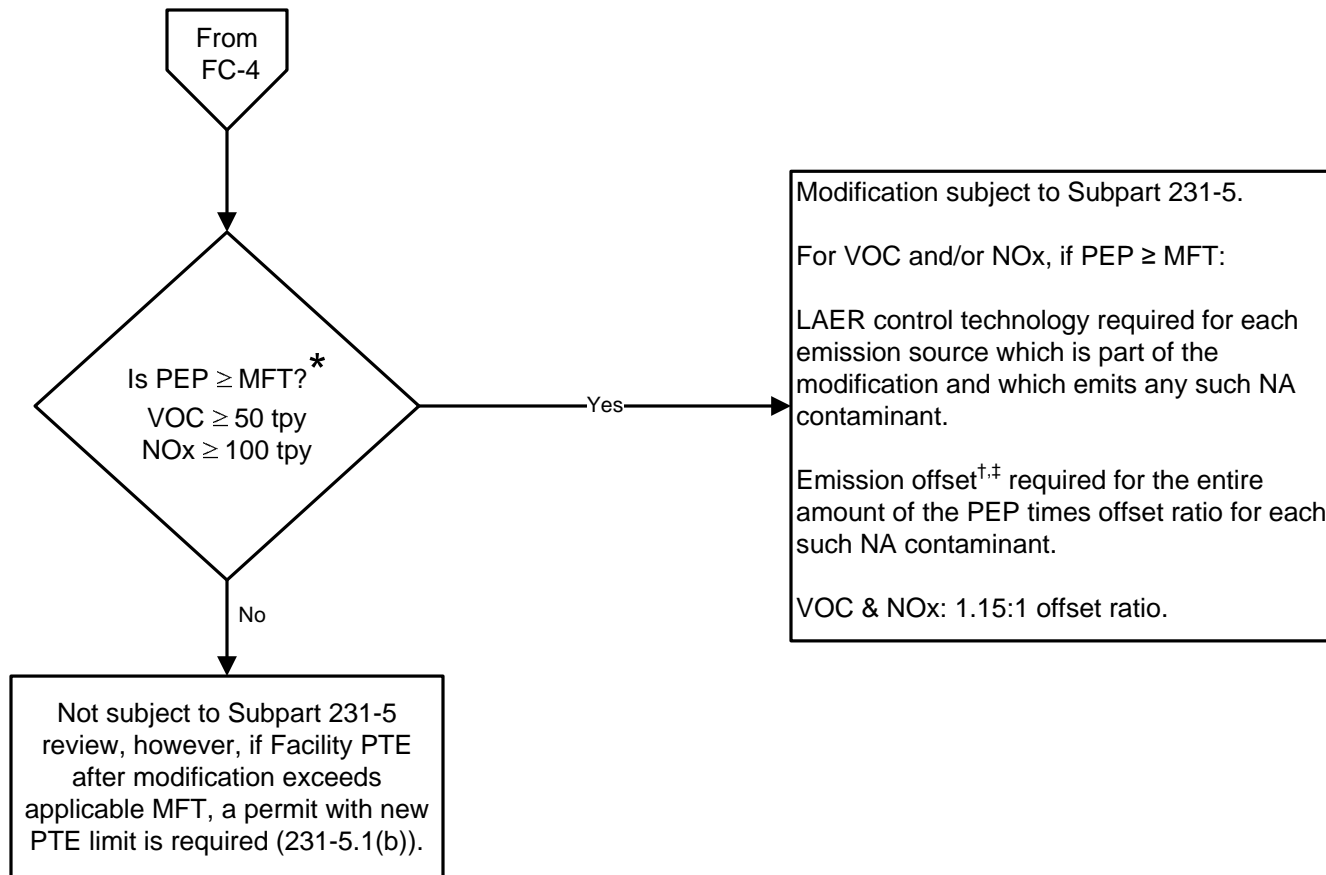
† An emission offset may be obtained from another NA area of equal or higher classification if emissions from such other area contribute to a violation of the National Ambient Air Quality Standard for PM-10 or PM-2.5 in the NA area of the proposed facility (Re: Section 231-5.5)

‡ In areas where NOx is a regulated precursor for ozone and PM-2.5, NOx offsets that occurred on or after April 5, 2005 can be used to offset NOx emissions for both programs with the amount determined by the higher offset ratio (Re: subdivision 231-10.1(e))

Key:	
PEP:	Project Emission Potential
MFT:	Major Facility Threshold
PTE:	Potential To Emit
LAER:	Lowest Achievable Emission Rate

Subpart 231-5 Nonattainment (NA) Area NSR

Flowchart FC-10: Existing Non-Major Facility Modification - Marginal/Moderate Ozone NA Areas or Attainment Portion of the Ozone Transport Region (VOC & NO_x)



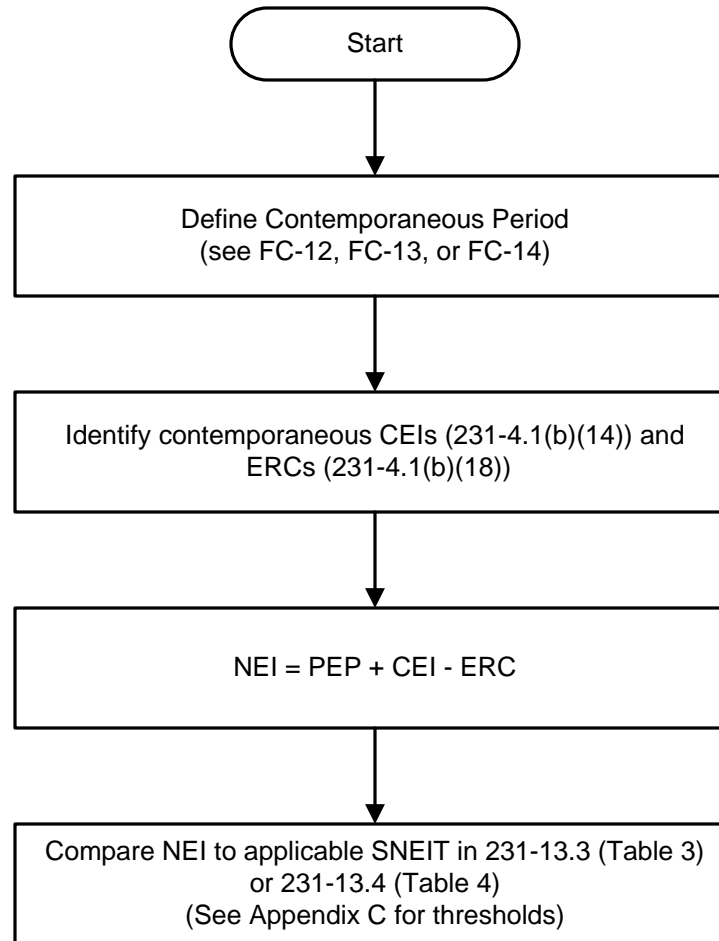
* Each NA contaminant is evaluated independently and can result in the need to follow the “yes” path for one and the “no” path for another

† An offset may be obtained from another NA area of equal or higher classification if emissions from such other area contribute to a violation of the National Ambient Air Quality Standard for the NA contaminant in the NA area of the modified facility (Re: Section 231-5.5).

‡ In areas where NO_x is a regulated precursor for ozone and PM-2.5, NO_x offsets that occurred on or after April 5, 2005 can be used to offset NO_x emissions for both programs with the amount determined by the higher offset ratio (Re: subdivision 231-10.1(e))

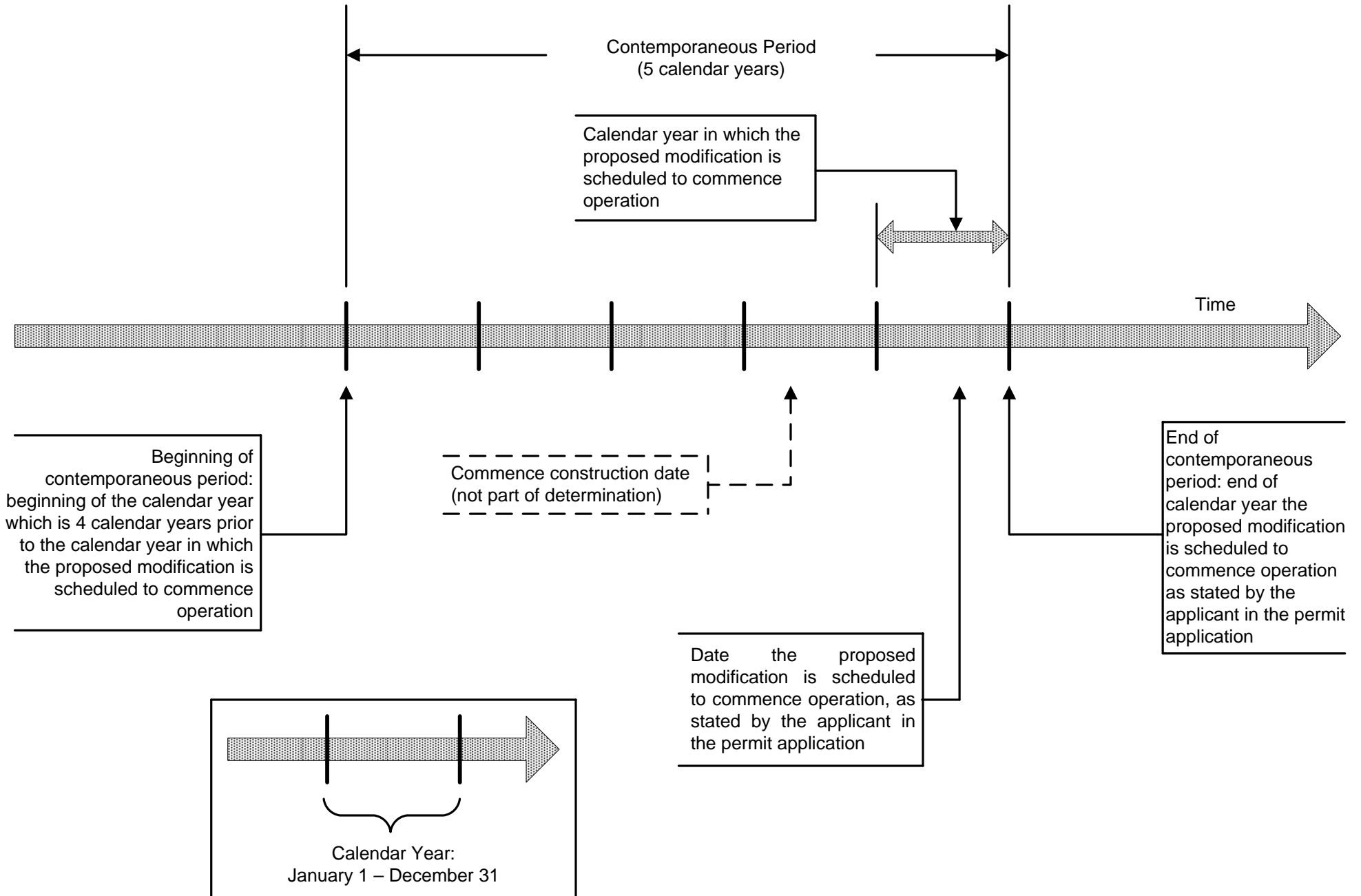
Key:	
PEP:	Project Emission Potential
MFT:	Major Facility Threshold
PTE:	Potential To Emit
LAER:	Lowest Achievable Emission Rate

Subpart 231-6
Nonattainment (NA) Area NSR
Flowchart FC-11: Net Emission Increase
Re: Paragraph 231-4.1(b)(30)



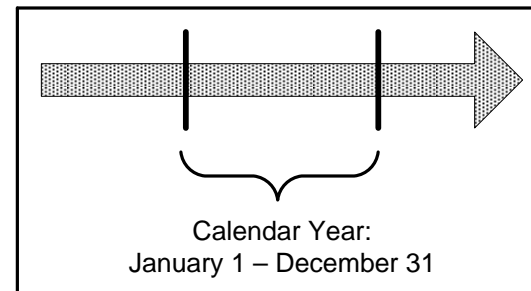
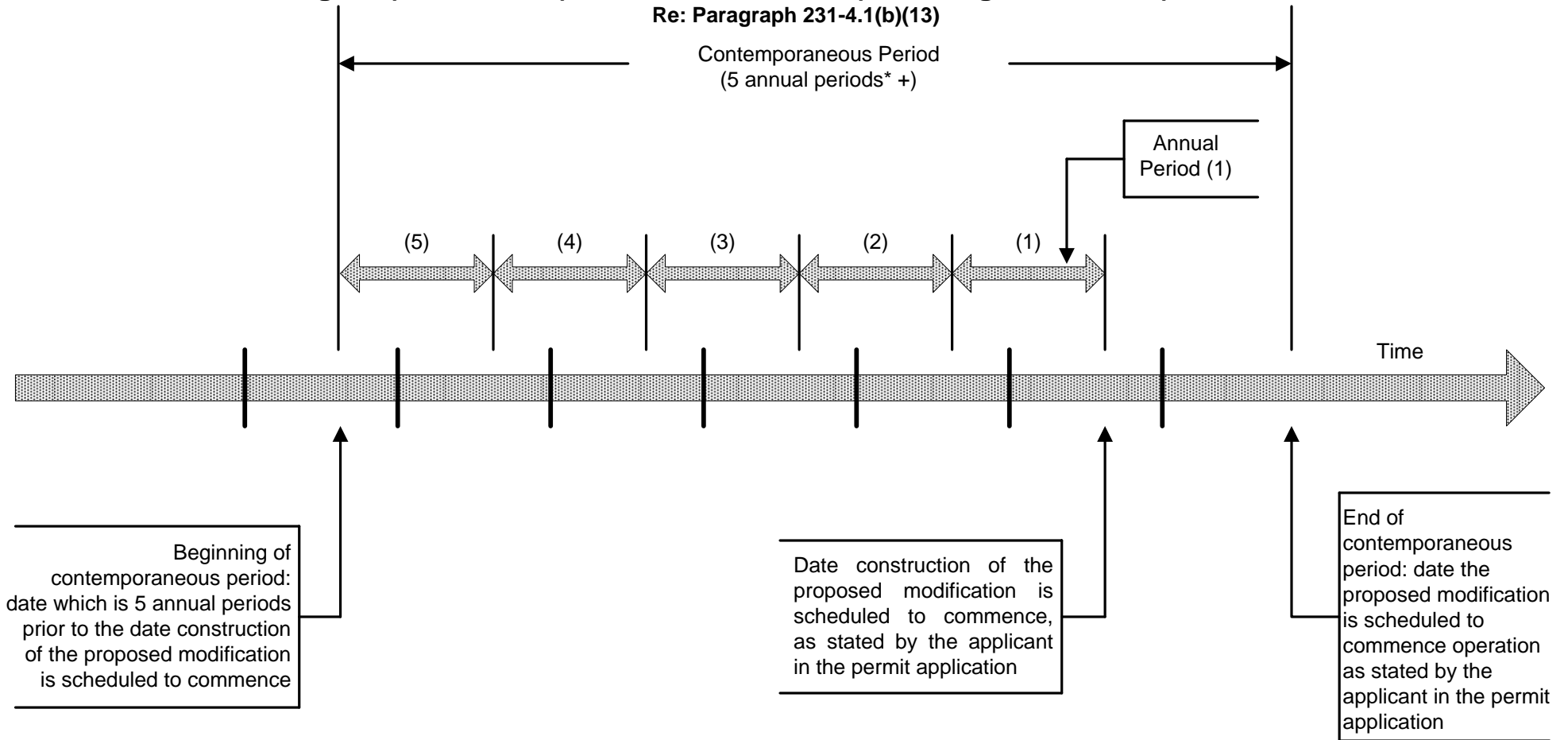
Key:	
CEI:	Creditable Emission Increase
ERC:	Emission Reduction Credits
NEI:	Net Emission Increase
PEP:	Project Emission Potential
SNEIT:	Significant Net Emission Increase Threshold

Subpart 231-6
Nonattainment (NA) Area NSR
Flowchart FC-12: Contemporaneous Period Determination for
Severe Ozone NA Area (VOC & NOx)
Re: Paragraph 231-4.1(b)(13)



Subpart 231-6 Nonattainment (NA) Area NSR

Flowchart FC-13: Contemporaneous Period Determination for Marginal/ Moderate Ozone NA Areas and Attainment Portion of the Ozone Transport Region (VOC & NOx) or PM-10 or PM-2.5 (Including SO2 & NOx) NA Areas

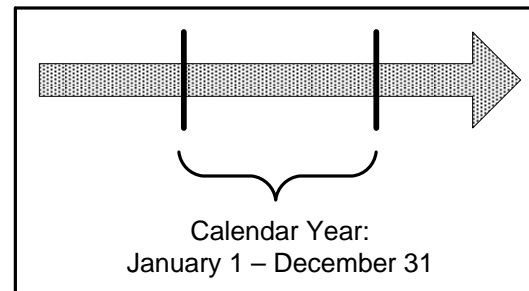
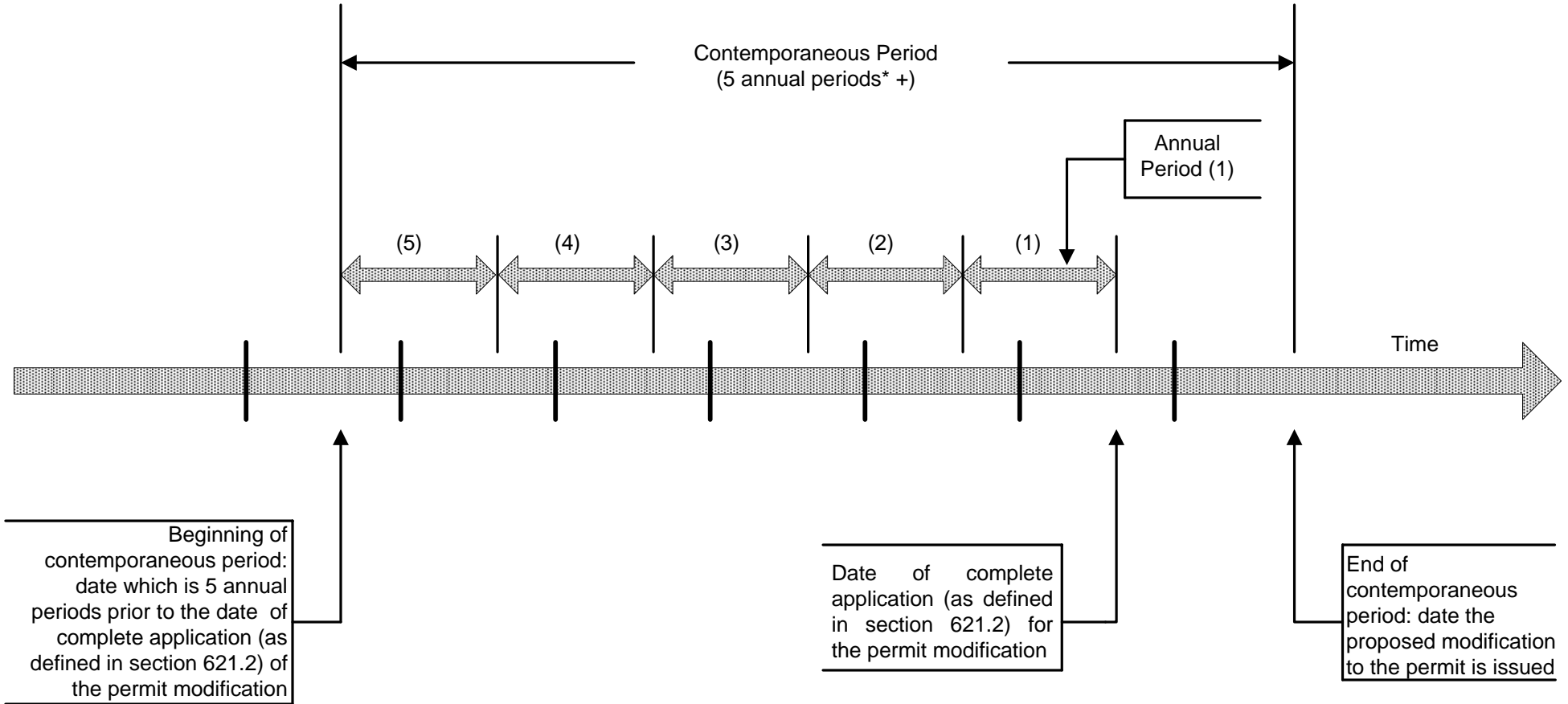


*Annual Period: a period of 365 consecutive days

**Subpart 231-6
Nonattainment (NA) Area NSR**

**Flowchart FC-14: Contemporaneous Period Determination for Facilities using
an Alternative Operating Scenario**

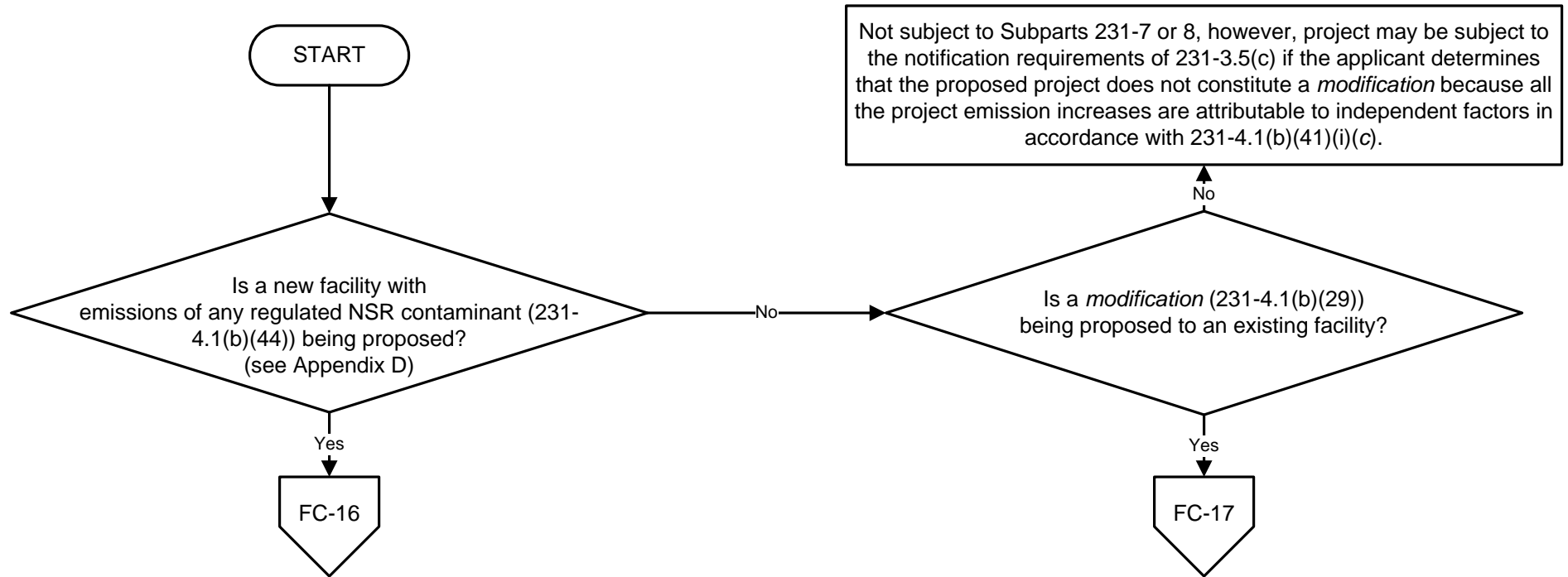
Re: Paragraph 231-4.1(b)(13)



*Annual Period: a period of 365 consecutive days

**Subparts 231-7 & 8
Attainment Area (PSD) NSR**

Flowchart FC-15: Facility Type/Applicability Determination



Modification (231-4.1(b)(29)). Any physical change in, or change in the method of operation of, a facility which results in a level of annual emissions (not including any emission reductions) in excess of the Baseline Actual Emissions of any Regulated NSR Contaminant emitted by such facility or which results in the emission of any Regulated NSR Contaminant not previously emitted. A modification shall not include the following:

(i) routine maintenance, repair, or replacement as defined in 6 NYCRR Part 200.

(ii) use of an alternative fuel or raw material by reason of an order under sections 2(a) and (b) of the Energy Supply and Environmental Coordination Act of 1974 (or any superseding legislation) or by reason of a natural gas curtailment plan pursuant to the Federal Power Act;

(iii) use of an alternative fuel by reason of an order or rule under section 125 of the Clean Air Act;

(iv) use of an alternative fuel at a steam generating unit to the extent that the fuel is generated from municipal solid waste;

(v) use of an alternative fuel or raw material by a facility which:

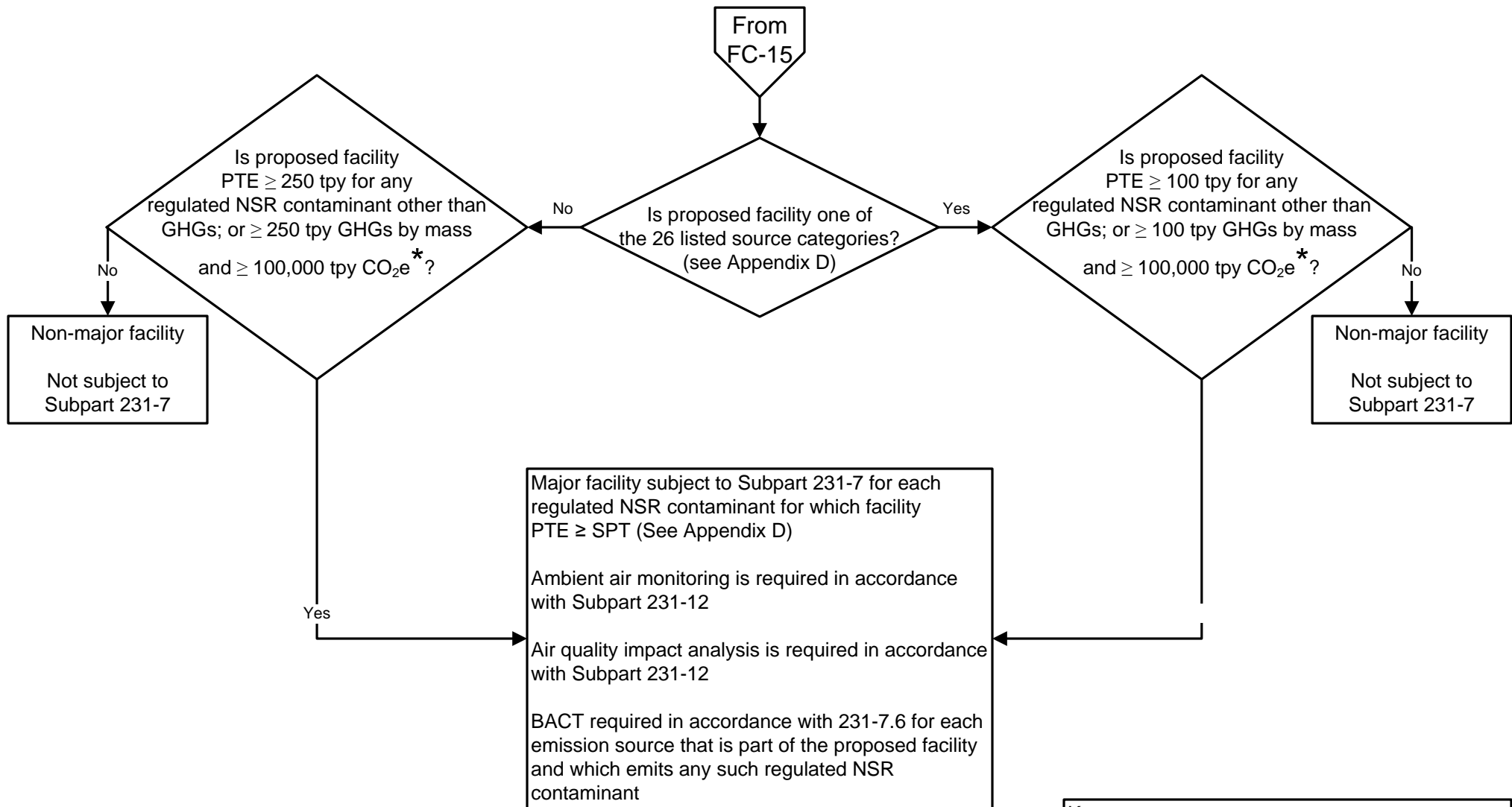
(a) the facility was capable of accommodating before January 6, 1975, unless such change would be prohibited under any federally enforceable permit condition which was established after January 6, 1975 pursuant to 40 CFR 52.21 or under regulations approved pursuant to 40 CFR Part 51 Subpart I or 40 CFR 51.166; or

(b) the facility is approved to use, pursuant to this Part, or which is included in a permit issued pursuant to 40 CFR 52.21.

(vi) an increase in the hours of operation or in the production rate, unless such change would be prohibited under any permit condition which was established after January 6, 1975, pursuant to 40 CFR 52.21 or under regulations approved pursuant to 40 CFR Part 51 Subpart I or 40 CFR 51.166;

(vii) any change in ownership at a facility.

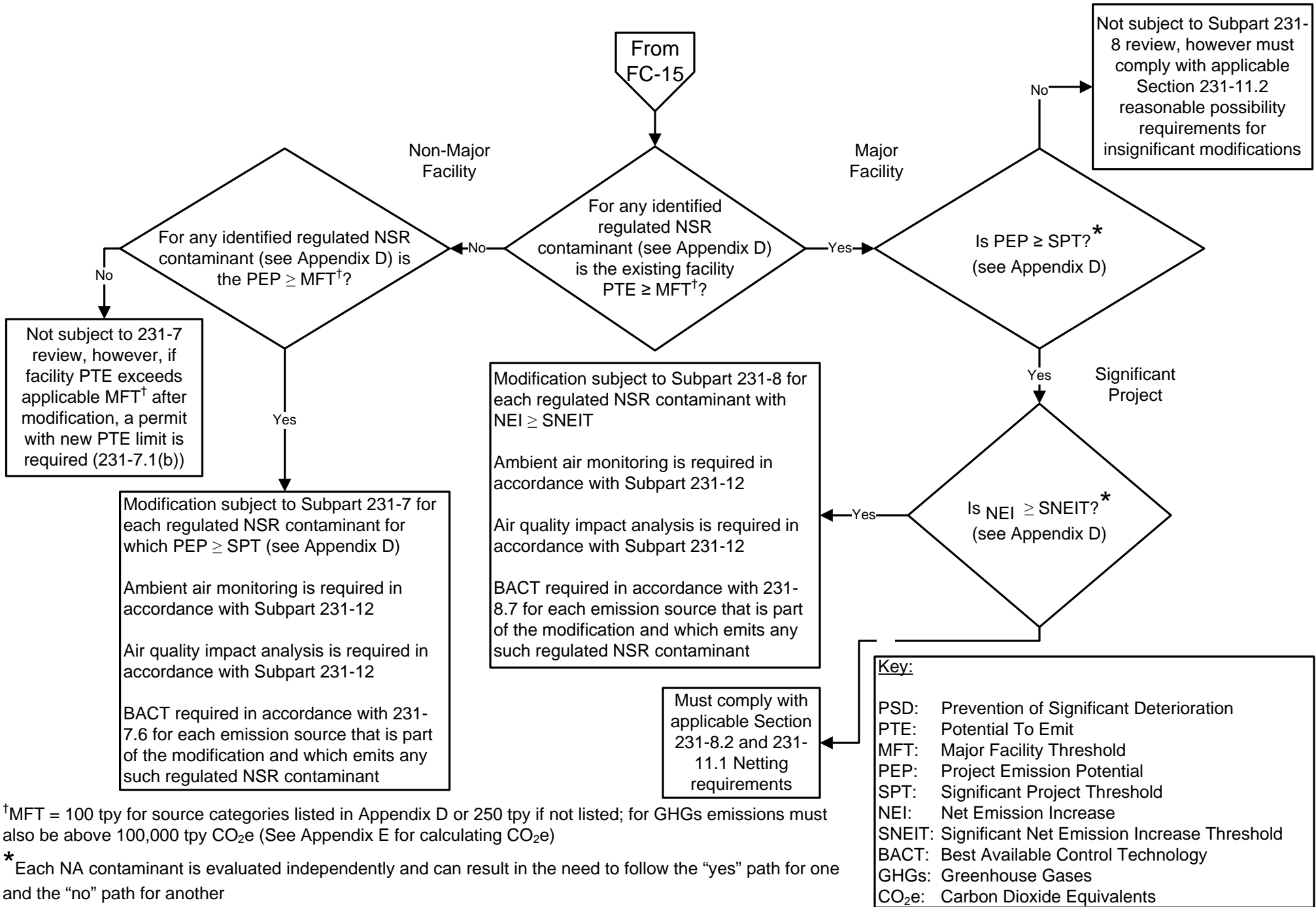
Subpart 231-7 Attainment Area (PSD) NSR Flowchart FC-16: Proposed New Facility



* See Appendix E for calculating CO₂e

Key:
PSD: Prevention of Significant Deterioration
PTE: Potential To Emit
GHGs: Greenhouse Gases
CO₂e: Carbon Dioxide Equivalents
SPT: Significant Project Threshold
BACT: Best Available Control Technology

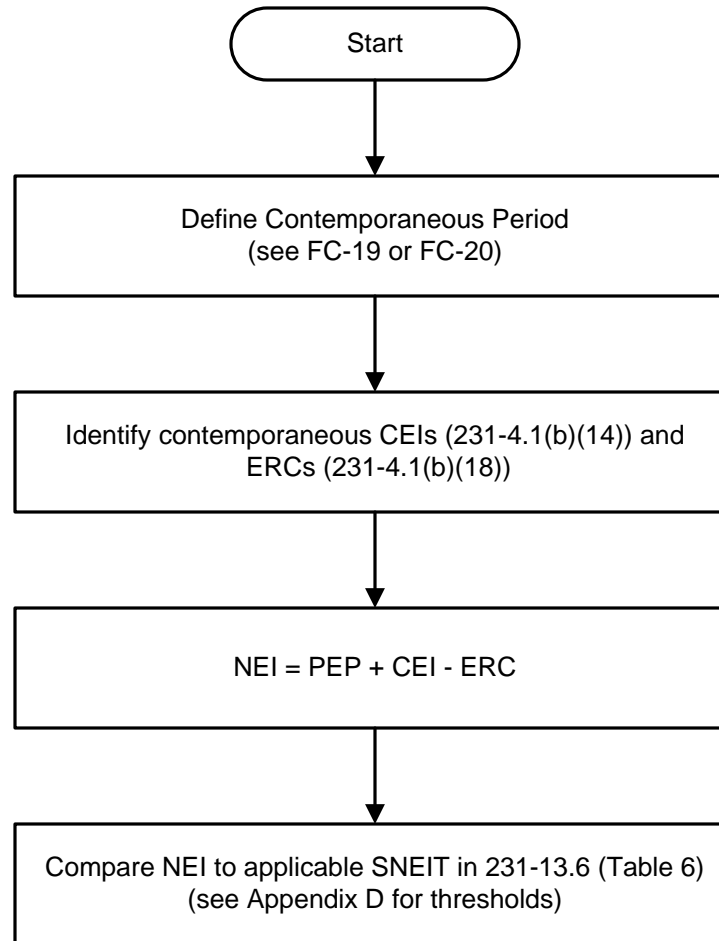
Subpart 231-7 & 8 Attainment Area (PSD) NSR Flowchart FC-17: Existing Facility Modification



†MFT = 100 tpy for source categories listed in Appendix D or 250 tpy if not listed; for GHGs emissions must also be above 100,000 tpy CO₂e (See Appendix E for calculating CO₂e)

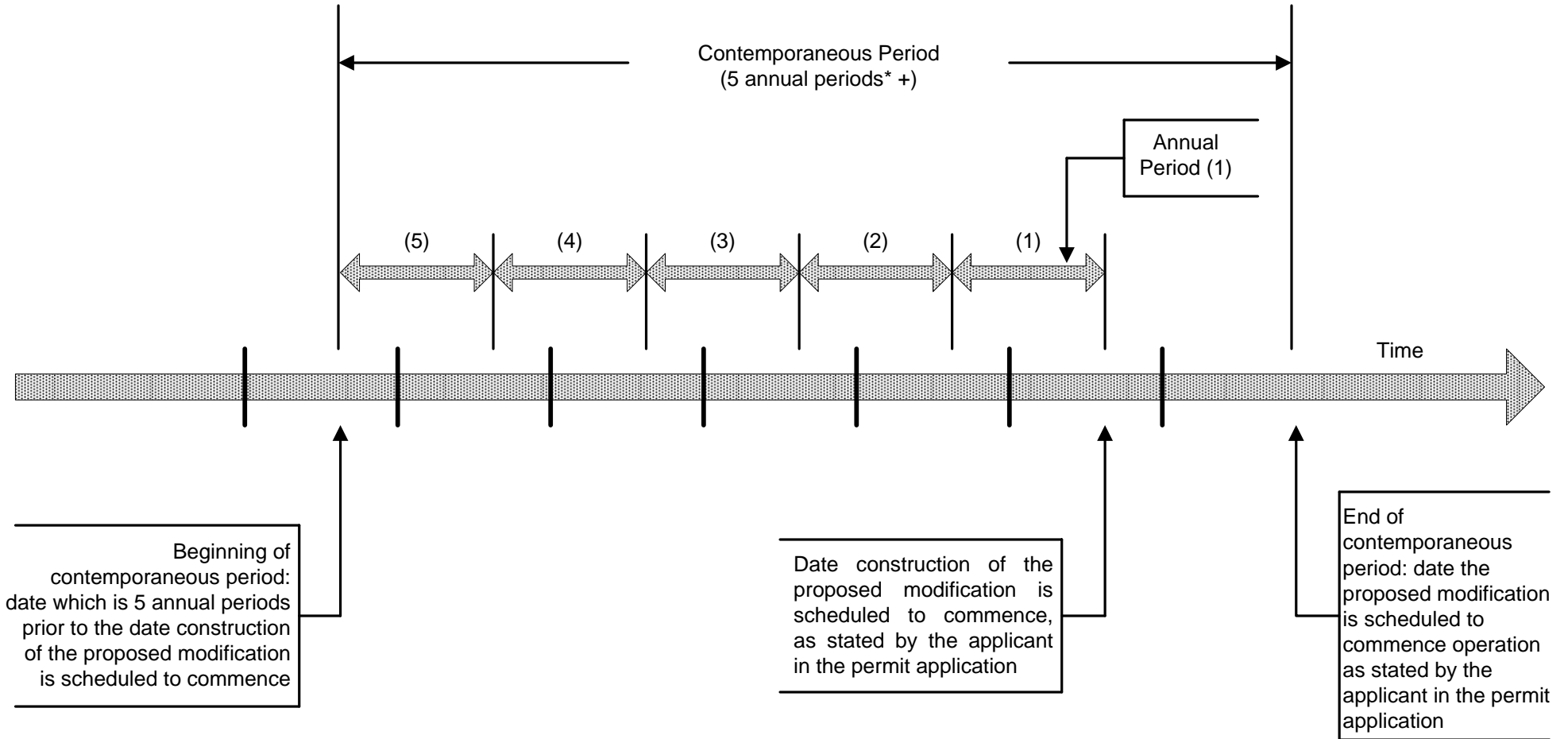
* Each NA contaminant is evaluated independently and can result in the need to follow the “yes” path for one and the “no” path for another

Subpart 231-8
Attainment Area (PSD) NSR
Flowchart FC-18: Net Emission Increase
Re: Paragraph 231-4.1(b)(30)



Key:	
CEI:	Creditable Emission Increase
ERC:	Emission Reduction Credit
NEI:	Net Emission Increase
PEP:	Project Emission Potential
SNEIT:	Significant Net Emission Increase Threshold

Subpart 231-8
Attainment Area (PSD) NSR
Flowchart FC-19: Contemporaneous Period Determination
Re: Paragraph 231-4.1(b)(13)

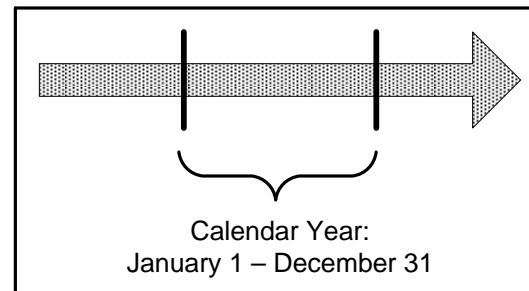
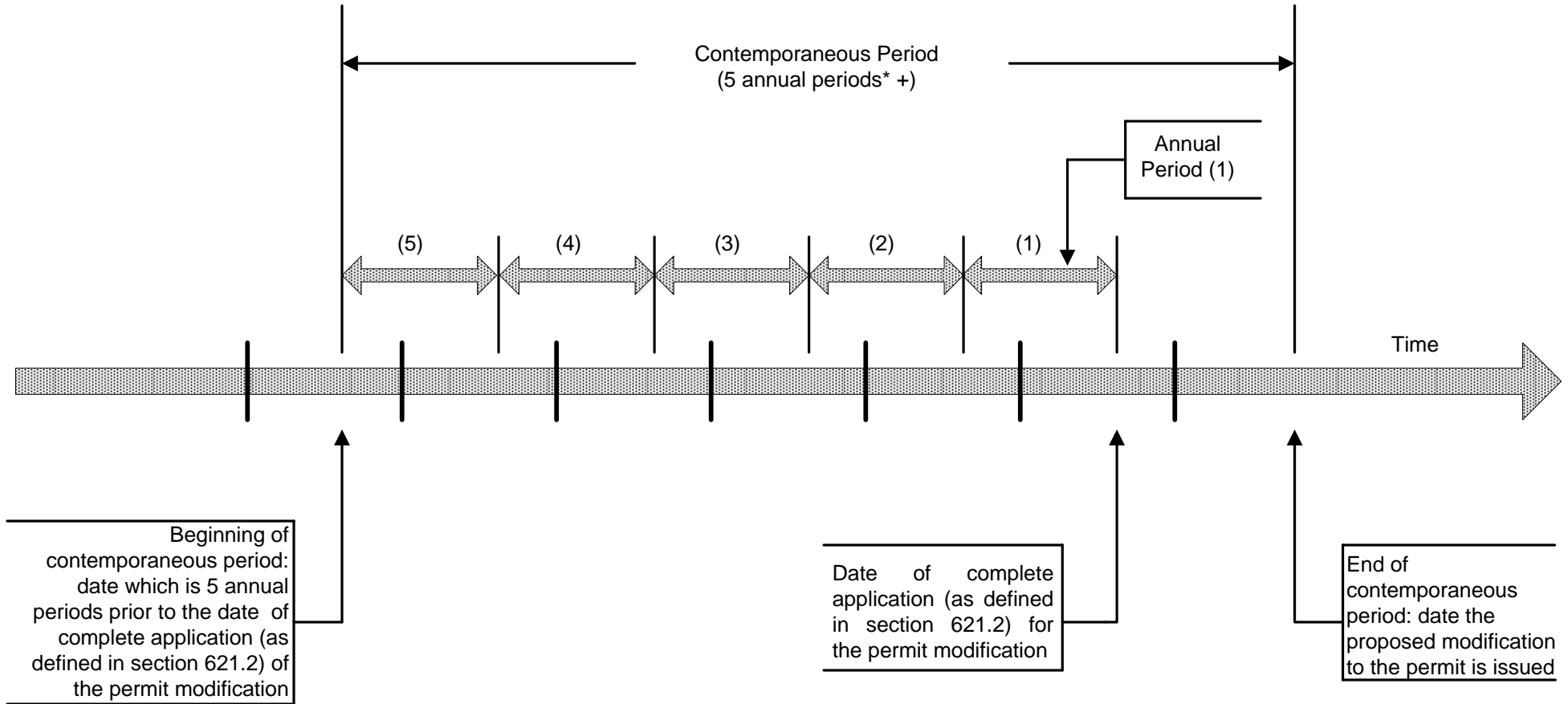


*Annual Period: a period of 365 consecutive days

Subpart 231-8 Attainment Area (PSD) NSR

Flowchart FC-20: Contemporaneous Period Determination for Facilities using an Alternative Operating Scenario

Re: Paragraph 231-4.1(b)(13)



*Annual Period: a period of 365 consecutive days

Subparts 231-5 & 6 Nonattainment (NA) Area NSR

- ❖ **Example A-1: Existing Major Facility Modification on Long Island with No Contemporaneous Modifications**
- ❖ **Example A-2: Existing Major Facility Modification on Long Island with Contemporaneous Modifications**
- ❖ **Example A-3: Existing Non-Major Facility Modification on Long Island**
- ❖ **Example A-4: Existing Major Facility Modification in Syracuse with No Contemporaneous Modifications**
- ❖ **Example A-5: Existing Major Facility Modification in Syracuse with Contemporaneous Modifications**
- ❖ **Example A-6: Existing Non-Major Facility Modification in Syracuse**

Subparts 231-7 & 8 Attainment Area NSR (PSD)

- ❖ **Example A-7: Existing Major Facility Modification**

Example A-1: Existing Major Facility Modification on Long Island with No Contemporaneous Modifications Nonattainment (NA) Area NSR

Existing Facility PTE:

NOx: 40 tons
VOC: 5 tons
PM-2.5 30 tons
PM-2.5 Precursors
SO₂: 40 tons
NOx: 40 tons

Facility's NOx PTE is above the major facility threshold of 25 tpy for severe ozone nonattainment and therefore is an existing major facility for NA contaminants (NOx, VOC, PM-2.5, and SO₂) based on facility location (see maps of nonattainment areas in Appendix B).

<u>Modification PEP/NEI:</u>	<u>SPT:</u>	<u>SNEIT:</u>
NOx: 45 tons	2.5 tons	25 tons
VOC: 4 tons	2.5 tons	25 tons
PM-2.5: 7 tons	10 tons	10 tons
PM-2.5 Precursors		
SO ₂ : 45 tons	40 tons	40 tons
NOx: 45 tons	40 tons	40 tons

NOx and VOC for severe ozone nonattainment evaluated on FC-5A

PEP and NEI for NOx are greater than both the significant project and significant net emission increase thresholds and is subject to Subpart 231-6 for NOx. PEP for VOC is greater than the significant project threshold but NEI is less than the significant net emission increase threshold so only sections 231-6.2 and 231-11.1 netting requirements apply to VOC.

PM-2.5, SO₂, and NOx for PM-2.5 nonattainment evaluated on FC-6

PEP for PM-2.5 is less than the significant project threshold and therefore not subject to Subpart 231-6, however, the facility must still comply with the section 231-11.2 reasonable possibility provisions for PM-2.5. PEP and NEI for SO₂ and NOx are both above the significant project and significant net emission increase thresholds and, therefore, subject to Subpart 231-6.

<u>Key:</u>	
PTE:	Potential To Emit
PEP:	Project Emission Potential
NEI:	Net Emission Increase
SPT:	Significant Project Threshold
SNEIT:	Significant Net Emission Increase Threshold

Example A-2: Existing Major Facility Modification on Long Island with Contemporaneous Modifications Nonattainment (NA) Area NSR

	Recent CEI and ERC at the facility	
<u>Existing Facility PTE:</u>	<u>7/1/10 decrease:</u>	<u>1/1/09 increase:</u>
NOx: 50 tons	NOx: 22 tons	NOx: 20 tons
VOC: 20 tons	VOC: 3 tons	VOC: 7 tons
PM-2.5: 10 tons	PM-2.5: 2 tons	PM-2.5: 4 tons
PM-2.5 Precursors	PM-2.5 Precursors	PM-2.5 Precursors
SO ₂ : 35 tons	SO ₂ : 15 tons	SO ₂ : 15 tons
NOx: 50 tons	NOx: 22 tons	NOx: 20 tons

Facility's NOx PTE is above the major facility threshold of 25 tpy and therefore is an existing major facility for NA contaminants (NOx, VOC, PM-2.5, and SO₂) based on facility location (see maps of nonattainment areas in Appendix B).

<u>Modification PEP:</u>	<u>SPT:</u>	<u>Modification NEI (PEP+CEI-ERC):</u>	<u>SNEIT:</u>
NOx: 45 tons	2.5 tons	45 + N/A - 22 = 23 tons	25 tons
VOC: 5 tons	2.5 tons	5 + N/A - 3 = 2 tons	25 tons
PM-2.5: 5 tons	10 tons	N/A (PEP < SPT)	10 tons
PM-2.5 Precursors			
SO ₂ : 20 tons	40 tons	N/A (PEP < SPT)	40 tons
NOx: 45 tons	40 tons	45 + 20 - 22 = 43 tons	40 tons

Project scheduled to commence construction on 10/1/13 and commence operation on 3/1/14.

NOx and VOC for severe ozone nonattainment evaluated on FC-5A

Contemporaneous period starts at the beginning of the calendar year which is four calendar years prior to the calendar year in which the proposed modification is scheduled to commence operation and finishes at the end of the calendar year the proposed modification is scheduled to commence operation.

Contemporaneous period: 1/1/10 to 12/31/14

PEP for NOx and VOC are greater than the significant project threshold but below the significant net emission increase threshold and, therefore, subject to sections 231-6.2 and 231-11.1 for netting.

PM-2.5, SO₂, and NOx for PM-2.5 nonattainment evaluated on FC-6

Contemporaneous period starts on the date five annual periods (1825 consecutive days) prior to the date construction of the proposed modification is scheduled to commence and ends on the date the proposed modification is scheduled to commence operation.

Contemporaneous period: 10/1/08 to 3/1/14

PEP and NEI for NOx are greater than both the significant project and significant net emission increase thresholds and is subject to Subpart 231-6. PEP for PM-2.5 and SO₂ are below significant project thresholds and are not subject to Subpart 231-6, however, the modification must comply with the reasonable possibility provisions in section 231-11.2.

<u>Key:</u>	
CEI:	Creditable Emission Increase
ERC:	Emission Reduction Credit
PTE:	Potential To Emit
PEP:	Project Emission Potential
NEI:	Net Emission Increase
SPT:	Significant Project Threshold
SNEIT:	Significant Net Emission Increase Threshold

Example A-3: Existing Non-Major Facility Modification on Long Island Nonattainment (NA) Area NSR

<u>Existing Facility PTE:</u>	<u>MFT</u>
NOx: 20 tons	25 tons
VOC: 7 tons	25 tons
PM-2.5: 5 tons	100 tons
PM-2.5 Precursors	
SO ₂ : 25 tons	100 tons
NOx: 20 tons	100 tons

Facility's PTE is below the major facility threshold for all NA contaminants (NOx, PM-2.5, VOC, and SO₂) and therefore is an existing non-major facility (not allowed to net out of NSR applicability).

<u>Modification PEP:</u>
NOx: 75 tons
VOC: 20 tons
PM-2.5: 40 tons
PM-2.5 Precursors
SO ₂ : 105 tons
NOx: 75 tons

NOx and VOC for severe ozone nonattainment evaluated on FC-8

PEP for NOx is greater than the major facility threshold and is subject to Subpart 231-5. PEP for VOC is less than the major facility threshold and is not subject to Subpart 231-5 however the facility potential to emit after the modification is greater than the major facility threshold and an emission limit (in tons per year) for VOC with the new potential to emit is required in the permit.

PM-2.5, SO₂, and NOx for PM-2.5 nonattainment evaluated on FC-9

PEP for PM-2.5 and NOx are less than the major facility threshold and are not subject to 231-5. PEP for SO₂ is greater than the major facility threshold and is subject to Subpart 231-5.

<u>Key:</u>	
PTE:	Potential To Emit
MFT:	Major Facility Threshold
PEP:	Project Emission Potential

Example A-4: Existing Major Facility Modification in Syracuse with No Contemporaneous Modifications Nonattainment (NA) Area NSR

Existing Facility PTE:

NOx: 140 tons
VOC: 25 tons

Facility's NOx PTE is above the major facility threshold of 100 tpy and therefore is an existing major facility for NA contaminants (NOx and VOC) based on facility location (see maps of nonattainment areas in Appendix B).

Modification PEP/NEI:

NOx: 45 tons
VOC: 4 tons

SPT/SNEIT:

40 tons
40 tons

NOx and VOC for attainment portion of the ozone transport region evaluated on FC-7

PEP and NEI for NOx are greater than both the significant project and significant net emission increase thresholds and is subject to Subpart 231-6. PEP and NEI for VOC are below the significant project threshold and is not subject to 231-6 however the facility must still comply with section 231-11.2 reasonable possibility provisions.

Key:

PTE: Potential To Emit
PEP: Project Emission Potential
NEI: Net Emission Increase
SPT: Significant Project Threshold
SNEIT: Significant Net Emission Increase Threshold

Example A-5: Existing Major Facility Modification in Syracuse with Contemporaneous Modifications Nonattainment (NA) Area NSR

Existing Facility PTE:

NOx: 150 tons
VOC: 25 tons

Recent emission reduction credits at the facility:

1/1/10 decrease:

NOx: 20 tons
VOC: 3 tons

Facility's NOx PTE is above the major facility threshold of 100 tpy and therefore is an existing major facility for NA contaminants (NOx and VOC) based on facility location (see maps of nonattainment areas in Appendix B).

<u>Modification PEP:</u>	<u>SPT:</u>	<u>Modification NEI (PEP+CEI-ERC):</u>	<u>SNEIT:</u>
NOx: 50 tons	40 tons	$50 + \text{N/A} - 20 = 30$ tons	40 tons
VOC: 5 tons	40 tons	N/A (PEP < SPT)	40 tons

Project scheduled to commence construction on 10/1/13 and commence operation on 3/1/14.

NOx and VOC for attainment portion of the ozone transport region evaluated on FC-7

Contemporaneous period starts on the date five annual periods (1825 consecutive days) prior to the date construction of the proposed modification is scheduled to commence and ends on the date the proposed modification is scheduled to commence operation

Contemporaneous period: 10/1/08 to 3/1/14

PEP for NOx is greater than the significant project but less than the significant net emission increase thresholds and therefore subject to sections 231-6.2 and 231-11.1 for netting. PEP for VOC is below significant project threshold and is not subject to Subpart 231-6 however must comply with the reasonable possibility provisions in section 231-11.2.

Key:

PTE: Potential To Emit
PEP: Project Emission Potential
NEI: Net Emission Increase
CEI: Creditable Emission Increase
ERC: Emission Reduction Credit
SPT: Significant Project Threshold
SNEIT: Significant Net Emission Increase Threshold

Example A-6: Existing Non-Major Facility Modification in Syracuse Nonattainment (NA) Area NSR

<u>Existing Facility PTE:</u>	<u>MFT:</u>
NOx: 70 tons	100 tons
VOC: 40 tons	50 tons

Facility's PTE is below the major source threshold for all NA contaminants and, therefore, is an existing non-major facility.

<u>Modification PEP:</u>
NOx: 125 tons
VOC: 20 tons

NOx and VOC for attainment portion of the ozone transport region evaluated on FC-10

PEP for NOx is greater than the major facility threshold and, therefore, is subject to Subpart 231-5. PEP for VOC is less than the major facility threshold and, therefore, is not subject to Subpart 231-5, however, the facility potential to emit for VOC after the modification is greater than the major facility threshold and a permit limit with the new potential to emit is required in the permit.

<u>Key:</u>	
PTE:	Potential To Emit
MFT:	Major Facility Threshold
PEP:	Project Emission Potential

Example A-7: Existing Major Facility Modification Attainment (PSD) Area NSR

Existing Facility PTE:

CO: 20 tons
SO₂: 30 tons
Greenhouse Gases:
CO₂: 90,000 tons
CH₄: 1 ton
N₂O: 1 ton
SF₆: 0.5 tons

GWP:

CO₂: 1
CH₄: 21
N₂O: 310
SF₆: 23,900

GHG_m: $90,000 + 1 + 1 + 0.5 = 90,002.5$ tons

GHG_e: $(90,000)(1) + (1)(21) + (1)(310) + (0.5)(23,900) = 102,281$ tons CO₂e

Facility's GHG PTE is above the major facility threshold of 100,000 tpy CO₂e and 100 tpy and, therefore, is an existing major facility for the purposes of PSD.

Modification PEP/NEI:

CO: 30 tons
SO₂: 45 tons
Greenhouse Gases:
CO₂: 140,000 tons
CH₄: 2 tons
N₂O: 0.5 tons
SF₆: no increase

GHG_m: $140,000 + 2 + 0.5 + 0 = 140,002.5$ tons

GHG_e: $(140,000)(1) + (2)(21) + (0.5)(310) + (0)(23,900) = 140,197$ tons CO₂e

SPT/SNEIT:

100 tons
40 tons

N/A
N/A
N/A
N/A

any increase
75,000 tons CO₂e

PSD contaminants evaluated on FC-17

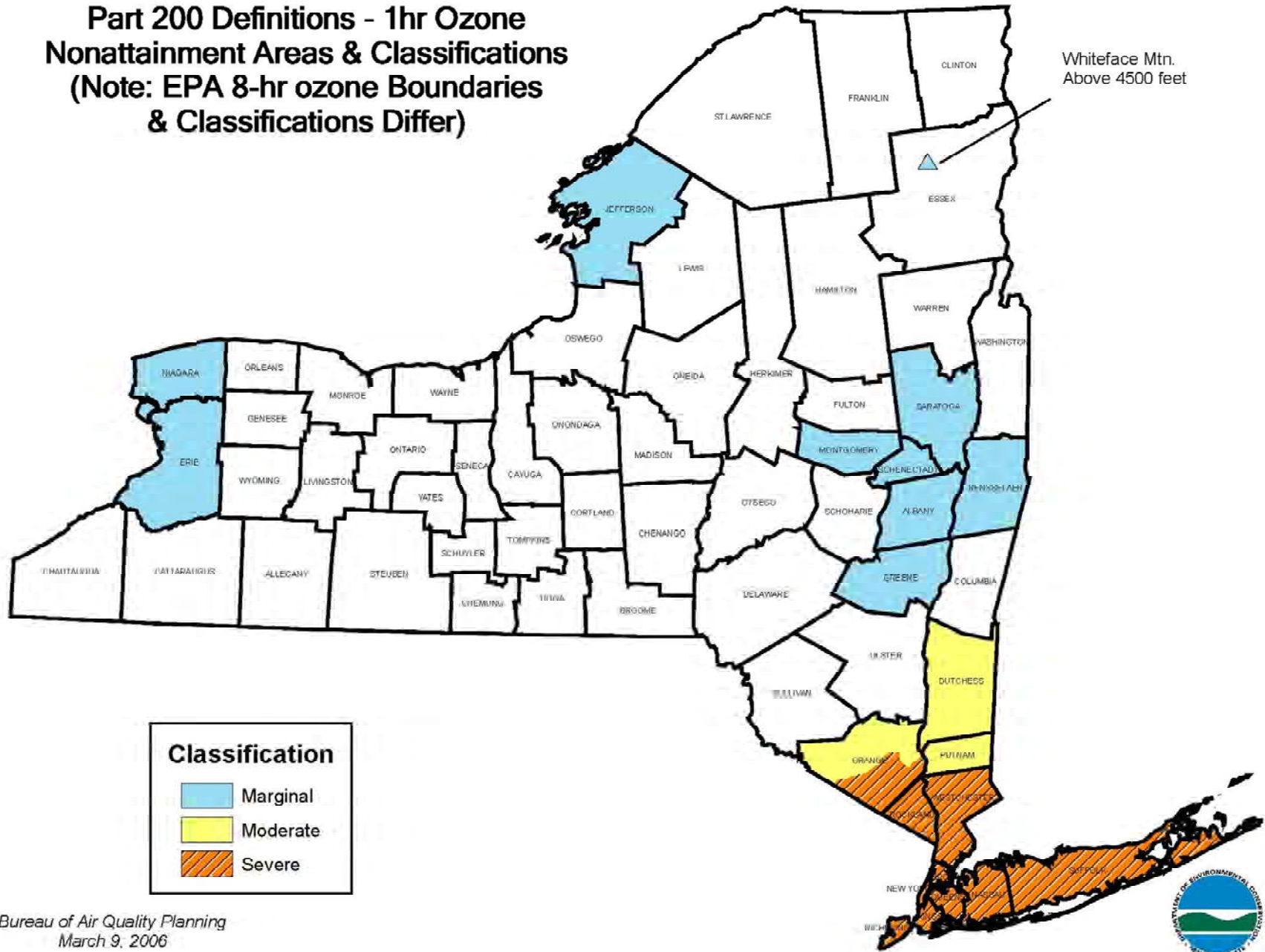
PEP and NEI for SO₂ and GHGs are above the applicable significant project and significant net emission increase thresholds and, therefore, subject to Subpart 231-8. PEP and NEI for CO are below the applicable significant project thresholds and, therefore, not subject to Subpart 231-8 however the facility must comply with the reasonable possibility provisions of 231-11.2.

Key:

PTE:	Potential To Emit
GWP:	Global Warming Potential
GHG _m :	Greenhouse Gas Mass Emissions
GHG _e :	Greenhouse Gas CO ₂ Equivalent Emissions
PEP:	Project Emission Potential
NEI:	Net Emission Increase
SPT:	Significant Project Threshold
SNEIT:	Significant Net Emission Increase Threshold

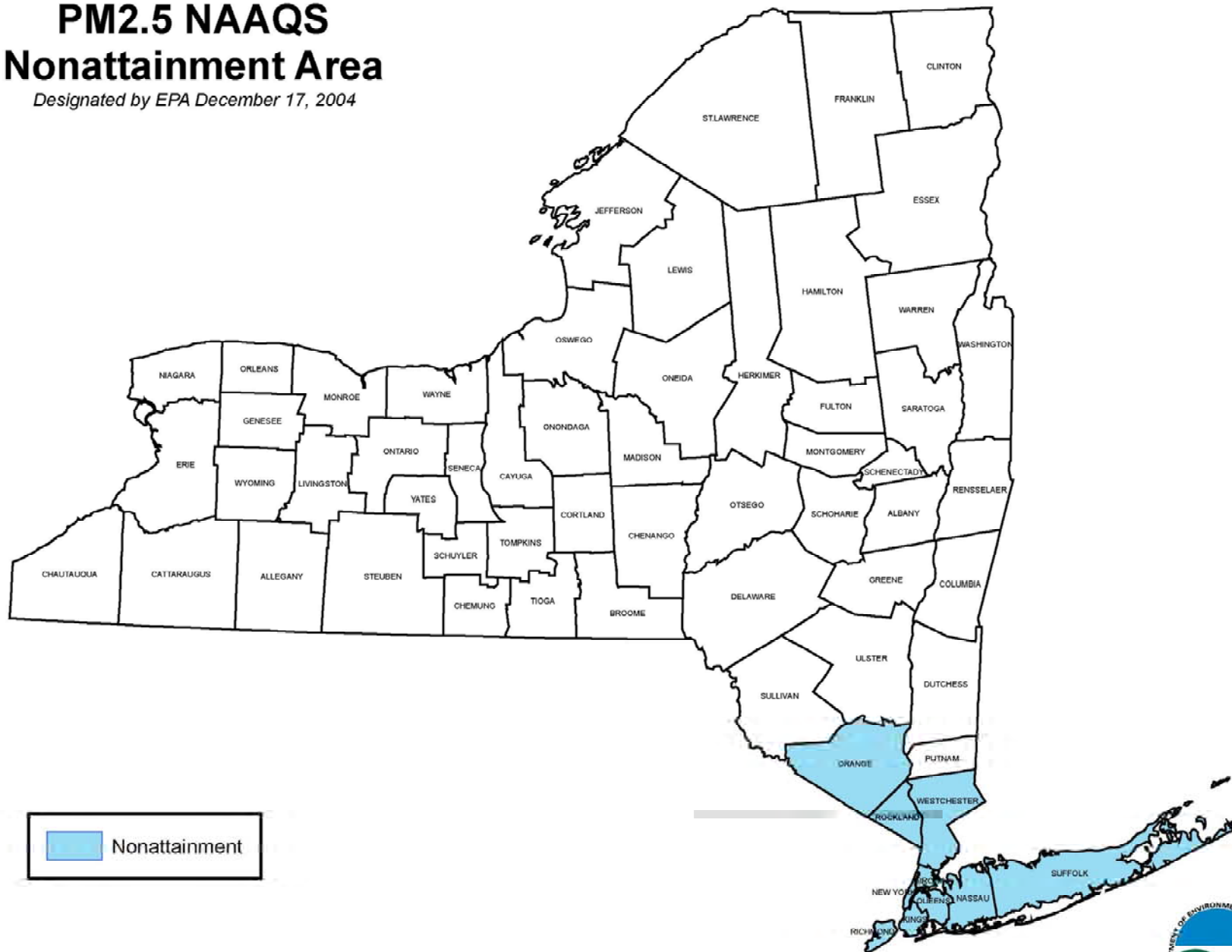
- ❖ **Appendix B-1: 1-Hour Ozone Nonattainment Map**
- ❖ **Appendix B-2: PM-2.5 Nonattainment Map**
- ❖ **Appendix B-3: PM-10 Nonattainment Map**

**Part 200 Definitions - 1hr Ozone
Nonattainment Areas & Classifications
(Note: EPA 8-hr ozone Boundaries
& Classifications Differ)**

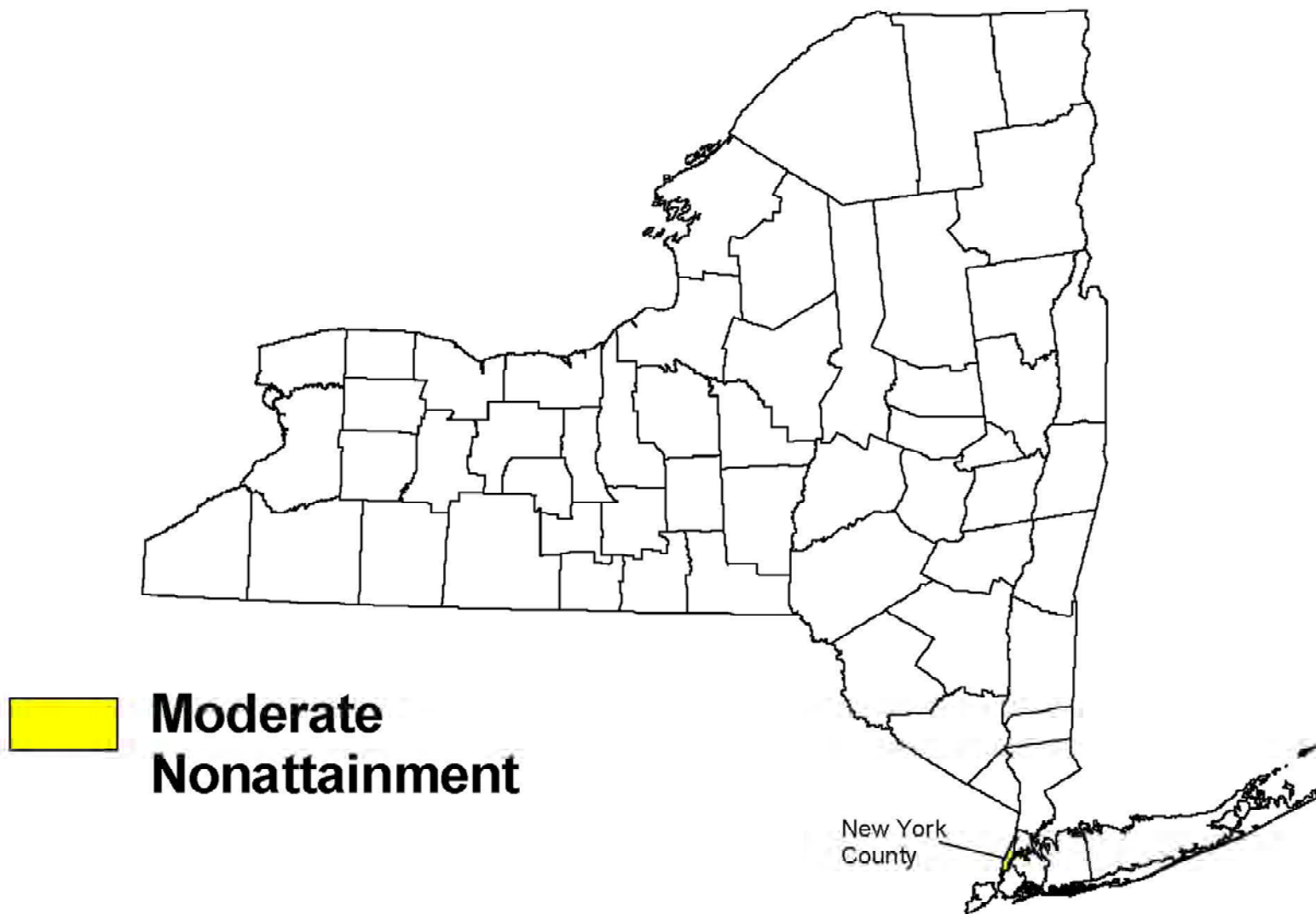


PM2.5 NAAQS Nonattainment Area

Designated by EPA December 17, 2004



PM-10 NAAQS



**Appendix C: Nonattainment (NA) Area NSR -
Area/Contaminant Classification and Significant Net Emission
Increase Thresholds
Subparts 231-5 & 6**

Area/Contaminant Classification	Significant Net Emission Increase Threshold (tpy)
Marginal, Moderate, or Ozone Transport Region	
VOC	40
NOx	40
Severe	
VOC	> 25
NOx	> 25

Area/Contaminant Classification	Significant Net Emission Increase Threshold (tpy)
Moderate	
PM-10 ¹	15
No classification	
PM-2.5 ¹	10
PM-2.5 Precursors	
SO ₂	40
NOx	40

¹ – both filterable and condensable fractions are to be included

**Appendix D: Attainment Area (PSD) NSR -
Regulated NSR Contaminants, Significant Project/Significant Net
Emission Increase Thresholds and Source Category List
Subparts 231-7 & 8**

Regulated NSR Contaminant	Significant Project Threshold ¹ /Significant Net Emission Increase Threshold
Carbon monoxide	100 tpy
Nitrogen oxides	40 tpy
Sulfur dioxide	40 tpy
Particulate matter	25 tpy
Particulate matter: PM-10 emissions ²	15 tpy
Particulate matter: PM-2.5 emissions ²	10 tpy
Ozone: as VOCs or NOx	40 tpy
Lead (elemental)	0.6 tpy
Fluorides	3 tpy
Sulfuric acid mist	7 tpy
Hydrogen sulfide (H ₂ S)	10 tpy
Total reduced sulfur (including H ₂ S)	10 tpy
Reduced sulfur compounds (including H ₂ S)	10 tpy
Municipal waste combustor organics (measured as total tetra through octa-chlorinated dibenzo-p-dioxin and dibenzofurans)	3.2 x 10 ⁻⁶ megagrams per year (3.5 x 10 ⁻⁶ tpy)
Municipal waste combustor metals (measured as particulate matter)	14 megagrams per year (15 tpy)
Municipal waste combustor acid gases (measured as sulfur dioxide and hydrogen chloride)	36 megagrams per year (40 tpy)
Municipal solid waste landfills emissions (measured as nonmethane organic compounds)	45 megagrams per year (50 tpy)
Greenhouse Gases	Any increase and 75,000 tpy ³
Any other regulated NSR contaminant	Any increase

¹ - project emission potential threshold

² - both filterable and condensable fractions are to be included

³ - measured as CO₂ equivalents

Source Category List
Coal cleaning plants (with thermal dryers)
Kraft pulp mills
Portland cement plants
Primary zinc smelters
Iron and steel mills
Primary aluminum ore reduction plants
Primary copper smelters
Municipal incinerators capable of charging more than 50 tons of refuse per day
Hydrofluoric, sulfuric or nitric acid plants
Petroleum refineries
Lime plants
Phosphate rock processing plants
Coke oven batteries
Sulfur recovery plants
Carbon black plants (furnace process)
Primary lead smelters
Fuel conversion plants
Sintering plants
Secondary metal production plants
Chemical process plants (excluding ethanol production facilities that produce ethanol by natural fermentation included in NAICS codes 325193 or 312140)
Fossil-fuel boilers (or combination thereof) totaling more than 250 million British thermal units per hour heat input
Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels
Taconite ore processing plants
Glass fiber processing plants
Charcoal production plants
Fossil-fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input

**Appendix E: Attainment Area (PSD) NSR -
Global Warming Potential Values for Calculating CO₂ Equivalents
Subparts 231-7 & 8**

<u>Greenhouse Gas</u>	<u>Global Warming Potential</u>
CO ₂	1
CH ₄	21
N ₂ O	310
SF ₆	23,900
Hydrofluorocarbons	12 to 11,700 ¹
Perfluorocarbons	6,500 to 9,200 ¹

To calculate GHG emissions based on mass, the mass emissions of each of the greenhouse gases is totaled together.

To calculate GHG emissions based on CO₂ equivalents, the mass emissions of each of the greenhouse gases is multiplied by their respective global warming potential to get emissions on a basis of CO₂ equivalents and then the CO₂ equivalents are summed across all of the greenhouse gases emitted (See Example A-7).

¹ see 74 FR 56395-56396, Table A-1, for specific values for Hydrofluorocarbons and Perfluorocarbons