**Major NSR Applicability Examples**
**Concepts and Calculations**

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*Example 1:*

Question: An existing source is located in a severe nonattainment area. The owner or operator proposes to re-tray an existing distillation tower. The new "internals" will allow for a 10% increase in throughput capability, but the storage tanks downstream of the distillation tower can handle the additional throughput and still meet the maximum allowable emission rates contained in their permit. Is the project a modification?

Answer: Yes, the project is a modification. A physical change was conducted to the distillation tower, resulting in an increase in throughput. The increased throughput will carry over into downstream units (the tanks), which will result in an actual increase in emissions from those tanks, and that throughput increase could not have been achieved if it was not for the re-tray project.

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Example 2:

Question: A refinery in Corpus Christi (an attainment area) currently has an uncontrolled vent stream that is routed directly to the atmosphere. The owner or operator is proposing to route the vent stream to a flare so that they can control VOC emissions. Is this a modification?

Answer: Yes, the project is a modification. A flare would be expected to reduce the amount of VOC emitted to the atmosphere; however, routing this stream to a flare will also emit products of combustion, such as CO and $NO_x$. In addition, any hydrogen sulfide in the vent stream would be oxidized to $SO_2$. Each of these pollutants must be evaluated separately to determine if there is a major modification for that pollutant.

In this example, there is no potential for an increase in emissions of VOC or hydrogen sulfide as a result of routing the vent stream to a flare. However; the project would be a modification for CO, $NO_X$ and possibly $SO_2$ (if hydrogen sulfide were present). PM is not considered because it is assumed that no particulates are emitted from a properly operated flare.

Example 3:

Question: A routine burner inspection identified that five burners in an existing heater require replacement. Will the replacement of these five burners be considered a modification?

Answer: The burner replacement may be considered a modification, depending on the circumstances of the project. If the burners are replaced with the same type of burner and the replacement burners represent a fraction of the total installed burners, then the replacement would likely not be considered a modification. EPA has traditionally relied upon a four factor test (nature and extent, purpose, frequency, and cost) to determine whether a project falls into the routine maintenance repair and replacement exclusion to modification. There is a fair amount of EPA guidance in this area. In simple terms, the more routine, more limited the improvement in operation, more frequent, and less costly, the more likely that the activity could be claimed under this exclusion.

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Example 4:

Question: A source is authorized to react raw materials A and B to make product C as represented in the simplified process flow diagram below. The improved process was placed on line in 2009 but has never reached the design capacity because the reaction step of the process was limited by problems with the catalyst. A new structured catalyst has become available and the source proposes to use it in the reactor to reach the design production rate. No other physical changes are proposed. Is the source modified?

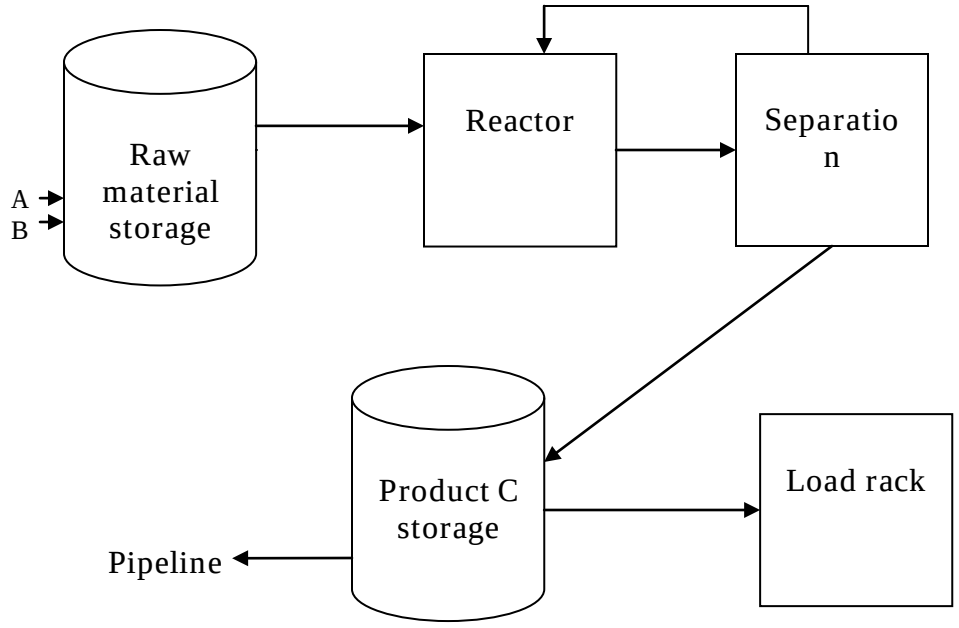


**Figure 1: Diagram of a simplified process flow**

Answer: Yes, the source is modified, because there is a physical change proposed for the reactor, which is expected to increase production, and therefore its emissions. The proposed change will also impact facilities upstream (raw material storage) and downstream (separation, product storage, and load rack) of the reactor. These facilities will be considered affected by the project, and they will have to be considered when determining the project emission increase.

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Example 5:

Question: An owner or operator holds a Chapter 116, Subchapter B permit authorizing ten tanks. The permit MAERT contains an emission cap which limits all tank emissions to a total of 51 tpy. The owner or operator proposes to construct an additional tank, and the proposed tank will be added to the tanks covered by the emission cap. The new tank has the capability of emitting (contributing) 6 tpy. Is there a modification if there is no change to the emission cap? What facilities are modified if the cap is increased to 57 tpy?

Answer: Yes, there is a modification since the newly constructed tank is a new facility regardless of whether the emission cap increases. The source is modified for the inclusion of a new facility. If the emission cap is increased, all the tanks under the cap are modified because they can all now emit up to 57 tpy, unless there are other operational limits in the permit conditions that would prevent them from emitting at that rate.

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Example 6:

Question: A permit application, for the modification of a reactor and its associated downstream storage tank, was submitted to the TCEQ. The application was determined to be administratively complete on January 2, 2012. In order to determine whether the project is a major project (by conducting a comparison of the baseline actual emission rate vs. the planned emission rate, the PTE in this case), the source must determine the baseline actual emission rate for each of the facilities affected by the project. What is the baseline actual emission rate for the reactor and storage tank?

Answer: A review of their past records, for VOC, showed the following actual VOC emission rates for the reactor and associated storage tank:

| In tpy | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|---|---|---|---|---|
| Reactor | ? | ? | 121 | 132 | 85 | 107 | 11 | 14 | 15 | ? |
| Storage | 80 | 12 | 14 | 12 | 10 | 11 | 10 | 11 | 13 | ? |

There was insufficient documentation available to determine actual emissions from the reactor in 2002 and 2003, while the EI has yet to be completed for 2011. The owner or operator verified that the calculations used to determine actual emissions for the inventory were consistent with current calculation methods. If this were not the case, the actual emissions from the inventory would need to be corrected.

A review of the rules and permit requirements for these facilities over the last ten years revealed the following:

- The reactor was affected by a permit amendment in 2008 with an allowable emission rate of 30 tpy. A Maximum Achievable Control Technology (MACT) standard also became effective in 2008 requiring emissions be controlled by 90 percent.

- Storage was also affected by a permit amendment in 2008 with an allowable of 30 tpy. A SIP (30 TAC Chapter 115) requirement became effective in 2002, requiring additional tank seals providing for a 90 percent control level.

The baseline actual emissions for each facility cannot exceed the current allowable emissions (30 tpy). Storage emissions from 2002 must be corrected for the SIP requirement that now applies. The actual emissions prior to 2008 must also be adjusted for any new emission controls required for BACT in that permit action.

The 2008 permit did not add any new controls for storage but did require 90 percent control on the reactor vent. The inventory emissions have been corrected for these requirements in the table below:

| In tpy | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|---|---|---|---|---|
| Reactor | ? | ? | 12 | 13 | 9 | 11 | 11 | 14 | 15 | ? |
| Storage | 8 | 12 | 14 | 12 | 10 | 11 | 10 | 11 | 13 | ? |

The baseline actual emission rate is the highest consecutive 24 month timeframe (two years) out of the past ten years (for non-EGUs). When calculating the baseline actual emission rate, remember that you can use any consecutive 24 months with the last ten years for any one pollutant; however, you must use the same consecutive 24 month timeframe for any one given pollutant.

For the reactor the highest consecutive 24 month timeframe is 2009 and 2010. This yields a value of (14+15)/2, which equals a baseline actual emission rate of 14.5 tpy.

Note that even though the storage tank emits more actual emissions in 2004 and 2005 ((14+12)/2, which equals 13.0 tpy), the owner or operator must use the same timeframe that was used for the reactor (2009 and 2010). This results in a baseline actual emission rate for the storage tanks of (11+13)/2, which equals a baseline actual emission rate of 12.0 tpy.

The baseline actual emission rate for the reactor and storage, using the 2008 to 2009 timeframe, is 26.5 tpy.

As a sidebar discussion, when calculating the baseline actual emissions for multiple facilities affected by a project, it's to the owner or operators advantage to evaluate each consecutive 24 month timeframe within the last ten years, for the sum of each individual facilities emissions. It may not always be obvious as to which consecutive 24 month timeframe yields the highest baseline actual emission rate. This is especially true for projects affecting multiple facilities. This approach is acceptable as long as the same

consecutive 24-month timeframe is used to establish the baseline actual emission rates for all facilities emitting the pollutant undergoing evaluation.

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Example 7:

Question: A permit application for an electric generating unit (EGU) was submitted to the TCEQ. What is the baseline actual emission rate for the boiler?

Answer: The baseline actual emission rate for EGU's is based on the highest consecutive 24 month timeframe (2-years) out of the last five years.

A review of owner or operators past records, for $NO_x$, showed the following actual $NO_x$ emission rates for the boiler:

| In tpy | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|
| Boiler | 151 | 116 | 140 | 151 | ? |

In this example, the actual emission rates are all within the boiler PTE, and the actual emission rate has not been affected by a change in rule requirements. In this case, it is not necessary to go through the actual emissions and adjust them for current requirements. The baseline actual emission rates for the boiler, which provide the greatest advantage to the applicant, are 2009 and 2010. The calculated baseline actual emission rates from the boiler would be (140+151)/2. This results in a baseline actual emission rate value of 145.5 tpy.

Note: For EGU's, the TCEQ may allow for the use of a different timeframe, if it can be demonstrated that another year is more representative of normal operation. For example, the owner or operator may wish to look at 2006 actual emissions to determine if the 2006 and 2007 are most representative of normal source operation. If the owner or operator believes that to be the case, they will need to provide the rationale for that determination in the projects permit application, so that it can be evaluated during the permit review. This capability (of using a different timeframe, if it can be demonstrated that another year is more representative of normal operation) cannot be used for non-EGU source types. They must use the highest consecutive 24-month timeframe (two years) out of the past ten years.

Example 8:

Question: The owner or operator of a surface coating operation, with five facilities (Units A through E), is considering making modifications to their production lines. These modifications will allow for a substantial increase in throughput. What is the baseline actual emission rate, given the information in the following discussion? The pollutant being evaluated is VOC.

Answer: The owner or operator has provided their actual emissions (in tpy) from each of their facilities, looking back over the last ten years. Their actual emissions are shown below.

| Year | Unit A (tpy) | Unit B (tpy) | Unit C (tpy) | Unit D (tpy) | Unit E (tpy) |
|---|---|---|---|---|---|
| 2002 | 50 | 199 | 19 | 54 | 0 |
| 2003 | 52 | 200 | 23 | 51 | 0 |
| 2004 | 68 | 205 | 22 | 54 | 0 |
| 2005 | 65 | 201 | 23 | 50 | 0 |
| 2006 | 60 | 210 | 23 | 30 | 0 |
| 2007 | 59 | 21 | 20 | 30 | 0 |
| 2008 | 59 | 19 | 22 | 0 | 0 |
| 2009 | 67 | 18 | 22 | 0 | 0 |
| 2010 | 65 | 16 | 23 | 0 | 0 |
| 2011 | 62 | 17 | 20 | 0 | 40 |

The owner or operator has maintained sufficient records to document the actual emissions for each of the facilities. In reviewing the requirements for baseline emissions, the applicant notes the following:

- There was a new rule requiring 90 percent control in 2006 that affected Unit B.
- Unit D was shut down at the end of 2007.
- Unit E was added in 2011 and has an allowable emission rate of 50 tpy.
- The Unit A allowable was 60 tpy so there have been some non-compliant emissions.

- All actual emissions were determined using the most current emission factors.

Considering the above information, the actual emissions will need to be adjusted to take into account 1) compliance issues with the current allowable emission rate for Unit A, and 2) the rule requirement for a 90 percent control efficiency required for Unit B. As a result, baseline emissions were adjusted as required and are shown in the following table.

| Year | Unit A (tpy) | Unit B (tpy) | Unit C (tpy) | Unit D (tpy) | Unit E (tpy) |
|---|---|---|---|---|---|
| 2002 | 50 | 20 | 19 | 54 | 0 |
| 2003 | 52 | 20 | 23 | 51 | 0 |
| 2004 | 60 | 21 | 22 | 54 | 0 |
| 2005 | 60 | 20 | 23 | 50 | 0 |
| 2006 | 60 | 21 | 23 | 30 | 0 |
| 2007 | 59 | 21 | 20 | 30 | 0 |
| 2008 | 59 | 19 | 22 | 0 | 0 |
| 2009 | 60 | 18 | 22 | 0 | 0 |
| 2010 | 60 | 16 | 23 | 0 | 0 |
| 2011 | 60 | 17 | 20 | 0 | 0 |
| Max BL | 60 | 21 | 23 | 52.5 | 50 |
| Total BL | 60 | 20.5 | 22.5 | 52 | 50 |

Here is a good place to point out a difference. If you look at the highest consecutive 24 month (two year) average, for each facility independently (in other words, picking the high two years in the last ten for that particular facility), you will obtain the baseline actual emission rates identified in the "Max BL" Row. However, remember that the owner or operator must use the same two year baseline period, for all facilities emitting the same pollutant. We point out this "difference" in calculating the "baseline actual emission rate", because we have found owners or operators which have tried this approach in the past. This is not the proper way to estimate a baseline actual emission rate for the project.

What the owner or operator should do is use the highest consecutive 24 month (two year) average for all facilities as a group. In this example, the highest baseline, as a group, is achieved for the 2004 and 2005 timeframe.

The baseline actual emission rates, for each facility involved in this particular project, are identified in the "Total BL" Row. If the facilities are to be upgraded as a group, their baseline actual emissions must be from the same 24 month period. The shaded areas, in the table above, show the corrected emissions rates, as identified below.

Unit A – The noncompliant emissions have been removed

Unit B – 90 percent control has been applied to all emissions prior to, and including, 2006.

Unit E – Since the unit has been in operation for less than two years, the PTE may be used for the baseline emission rate.

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Example 9:

A gasoline terminal at a refinery is proposing to change the service of a tank, from some other material to gasoline, using a PBR (thus, modifying the storage tank). The change is necessary in order to provide for the flexibility necessary to meet projected demand in the area. The owner or operator has reviewed historical operational data, provided a forecast of expected business activity, and provided their highest projections of business activity. The company has estimated that the authorized tank emissions will be increasing from 6 tpy to 7 tpy.

The owner or operator also reviewed the other facilities that may be affected by the change of service of the storage tank. They determined that the addition of the new material to this tank would allow for a slightly reduced throughput at the other gasoline tanks at the source. It was also forecast that the throughput at the loading rack, and its associated emissions, will increase over time at the loading rack due to the modified tank as well as increased demand in the area. Even though actual emissions from the loading rack are predicted to increase to 44 tpy, the loading rack will still be able to operate within its currently authorized level of 50 tpy, and the authorized emission rate from the loading rack does not need to be increased.

Question: If the owner or operator avoids major NSR by comparing their baseline actual emission rate to a projected actual emission rate, how long will the company have to track their projected actual emission rate?

Answer: The projected actual emission rate for the tank must be tracked for ten years because the change in service resulted in increase in the tanks potential to emit. The company does not plan to increase the authorized emission rate (i.e., the allowable emissions rate) for the loading rack, so its projected actual emission rate (44 tpy) will need to be tracked for five years.

Example 10:

Question: An owner or operator wants to construct a new facility at an existing source. The source currently contains existing authorizations for several chemical processing units. The source currently has potential to emit (PTE) of 120 tons/year (tpy) of $SO_2$. Is the source a major source?

Answer: Yes, the source is a major source. Chemical Process Plants is one of the named source categories. The major source definition for a named source is 100 tpy. Since the source in this example has a pre-project PTE of 120 tpy $SO_2$, the source is a major source.

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Example 11:

Question: An existing named source emits 400 tpy of CO. Is the source also a PSD major source for $NO_x$, $PM_{10}$, $PM_{2.5}$, and $SO_2$?

Answer: Yes, the named source is a PSD major source for $NO_x$, $PM_{10}$, $PM_{2.5}$, and $SO_2$. 400 tpy of CO at a named source exceeds the major source significant emission rate of 100 tpy. For PSD, if the source is a major source for any one criteria pollutant, the source is a major source for all criteria pollutants.

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Example 12:

Question: An existing source is located in a serious nonattainment area. The source currently emits 30 tpy of VOC and 25 tpy of $NO_x$. Is the source a major source?

Answer: No, the source is not a major source. Even though the major source significant emission rate in a serious nonattainment area is 50 tpy, the source currently emits 30 tpy of VOC and 25 tpy of $NO_x$. Remember, for NNSR, each pollutant is evaluated individually (they are not additive). In this example, both VOC and $NO_x$ are less than 50 tpy individually. The source is not a major source.

Example 13:

A project is being considered in a severe ozone nonattainment area. The project will affect the emissions of $NO_x$, CO, and $PM_{10}$. The PTE from all facilities at the source, for these pollutants, were determined and were summed to provide the values in the table below.

| Pollutant | $NO_X$ | CO | $PM_{10}$ |
|---|---|---|---|
| Source PTE (tpy) | 88 | 310 | 55 |

Question: Is the source a major source for purposes of nonattainment applicability?

Answer: Yes, the source is a major source for $NO_x$ for the purposes of nonattainment applicability. When determining the source PTE for purposes of nonattainment review, remember that each pollutant is evaluated independently. Both $NO_x$ and VOC are regulated as precursors to ozone. In this case, the source emits $NO_x$. The PTE for $NO_X$ is 88 tpy and exceeds the major source significant emission rate of 25 tpy for severe nonattainment areas.

Question: Is the source a major source for the purposes of PSD applicability?

Answer: Yes, the source is a major source for the purposes of PSD applicability. When determining whether the source is a major source for PSD, consider the emissions of all federally regulated NSR pollutants at the source. A review of the emissions from the source in this example shows that the PTE for CO is 310 tpy. Since the current PTE for CO (310 tpy) exceeds the major source significant emission rate for criteria pollutants emitted in an attainment area (100 tpy for named sources, and 250 tpy for un-named sources), the source is a major source. Remember, that under PSD applicability requirements, if the source is a major source for one criteria pollutant, then the source is a major source for all criteria pollutants. This is different than nonattainment applicability, where the determination of a source being a major source is conducted on a pollutant by pollutant basis.

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Example 14:

An owner or operator is located at an existing major named source, in an attainment area.

Current PTE = 200 tpy $NO_x$
Proposed PTE = 210 tpy $NO_x$
Baseline Actuals = 190 tpy $NO_x$

Question: Is the project a major project? 210 tpy - 190 tpy = 20 tpy $NO_x$ increase.

The significant emission rate is 40 tpy $NO_x$.

Answer: No, the project is not a major project. The proposed increase of 20 tpy is less than the significant emission rate of 40 tpy. The project is not a major project, and Major NSR is not required (minor NSR review only).

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Example 15:

In January 2011, an owner or operator submits an application for the modification of an existing major source in a nonattainment area. The permit reviewer determines that netting is required.

Upon review of projects within the contemporaneous window, a March 2007 permitting action for another facility at the source is identified. The facility was authorized to emit 300 tpy of VOC. A control device was voluntarily installed, and it was designed to obtain a 98% VOC control efficiency. The PTE after the installation of the control device was 6 tpy (300 tpy * 0.02). The baseline actual emission rate before the change was 110 tpy. In 2007, the creditable VOC emission reduction was 110 tpy – 6 tpy = 104 tpy.

In February 2008, a SIP related rule change required a 90% VOC reduction of emissions from the facility controlled in 2007.

Question: How would the new rule affect the magnitude of the creditable reduction that can be used in netting for the January 2011 project?

Answer: The March 2007 project resulted in an actual reduction of 104 tpy; however, the February 2008 SIP related rule change will affect the amount of the reduction that is creditable for use in netting. SIP rules are intended to bring an area into attainment, and as such, the emission reductions generated by SIP rules are considered to be "relied upon" in further attainment and/or demonstration of a standard. The SIP requirement of 90% control would need to be applied to the baseline emission rate, lowering the baseline emission rate by the appropriate control value (in this case, 90%). The affect on the baseline emission rate would be 110 tpy * 0.1 = 11 tpy. The creditable actual emission reduction from the March 2007 project that can be used in the netting calculation for the January 2011 project is 11 tpy – 6 tpy = 5 tpy.

In the netting calculation for the January 2011 project, the contemporaneous change for the March 2007 project would be a 5 tpy reduction.

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Example 16:

An owner or operator is proposing a project at an existing major named source in an attainment area.

Current PTE = 200 tpy $NO_x$
Proposed PTE = 210 tpy $NO_x$
Baseline Actuals = 130 tpy $NO_x$

Question: Is the project a major project? 210 tpy - 130 tpy = 80 tpy $NO_x$ increase.

The major modification significant emission rate increase for $NO_x$ is 40 tpy.

Answer: Yes, the project is a major project. The proposed 80 tpy emission increase is greater than the major modification significant emission rate of 40 tpy. In this example, the project is considered to be a major project, and netting is required.

Netting:

Current Project is July 2011

| | | |
|---|---|---|
| Previous Projects - | January 2011 | 20 tpy (increase) |
| | May 2009 | 80 tpy (increase) |
| | Dec 2008 | 30 tpy (decrease) |
| | Nov 2005 | 200 tpy (decrease) |

The netting calculation includes the current project and all other projects within the contemporaneous period, looking back five years. 80 tpy + 20 tpy + 80 tpy - 30 tpy = 150 tpy increase.

The major modification significant emission rate for $NO_x$ is 40 tpy.

The 150 tpy contemporaneous net increase exceeds the major modification significant emission rate of 40 tpy. The project is a major modification and PSD review for $NO_x$ is required.

Second Question: Why was the 200 tpy emission reduction that resulted from the November 2005 project not included in the netting calculation?

Answer: The contemporaneous period goes back in time five years from the date of the current project. The 200 tpy emission reduction that resulted from the November 2005 project falls outside of the contemporaneous period for the July 2011 project, and is therefore ineligible for inclusion in the netting calculation.

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Example 17:

An owner or operator is located at an existing major source in a serious nonattainment area.

Current PTE = 50 tpy $NO_x$
Proposed PTE = 70 tpy $NO_x$
Baseline Actuals = 40 tpy $NO_x$

Question: Is the project a major project? 70 tpy - 40 tpy = 30 tpy increase.

Answer: Yes, the project is a major project. The project increase is 30 tpy, which exceeds the five tpy netting significant emission rate for serious and severe nonattainment areas. The project is major project and netting is required.

Current Project is July 2011

| | | |
|---|---|---|
| Previous Projects - | Nov 2010 | 10 tpy (increase) |
| | Oct 2007 | 20 tpy (increase) |
| | Dec 2006 | 5 tpy (increase) |

The netting calculation includes the current project and all other projects within the contemporaneous period, looking back five years. 30tpy + 10 tpy + 20 tpy + 5 tpy = 65 tpy increase

The significant emission rate increase for $NO_x$ is 25 tpy.

The contemporaneous net increase of 65 tpy is greater than the significant emission rate for a major modification, 25 tpy, for serious and severe nonattainment areas. The project is a major modification, and nonattainment review is required for $NO_x$.

The owner or operator must apply LAER and provide offsets at a ratio of 1.2:1.

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Example 18:

An owner or operator submits a project for Facility A at an existing major source. The project is submitted in June 2010. The BACT review of Facility A indicates that a control device obtaining a 98% destruction efficiency would be required. The vent is currently uncontrolled, with a PTE of 300 tpy. The baseline actual emission rate (the highest actual average emissions achieved in a consecutive 24 month period out of the last ten years) before the project is 200 tpy. The owner or operator used a 2004 and 2005 timeframe to establish their baseline actual emission rate.

In February 2008, a SIP related rule change required a 90% reduction of emissions at Facility A.

Question: How will the 2008 SIP related rule change, and the BACT review for the June 2010 project, affect the baseline actual emission rate that can be used for Facility A in subsequent projects?

Answer: For the June 2010 project, the February 2008 SIP related rule (which required a 90% reduction) would reduce the baseline actual emissions. If the baseline actual emission rate was 200 tpy before the rule change, the corrected baseline actual emission rate (taking into account the SIP requirement) would be 200 TPY * 0.1 = 20 tpy.

The 20 tpy corrected baseline actual emission rate would be used for the June 2010 project at Facility A. However, if there is another modification of Facility A in the future, the baseline actual emission rate for that new project may need to be lowered because the June 2010 project

contained a 98% destruction efficiency BACT requirement. If the same baseline period is used (2004 and 2005), this BACT requirement will also affect the baseline actual emission rate calculation. After the application of BACT, the corrected baseline actual emission rate will be 200 tpy * .02 = 4 tpy. In this example, the June 2010 permit action implemented a control requirement that is more stringent than the SIP requirement. The more stringent control requirement would lower the baseline actual emission rate to 4 tpy. Note that it is not necessary to further reduce the reduction by 90% for the SIP requirement. These requirements are not additive.

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Example 19:

An owner or operator is located at an existing major source in a serious nonattainment area.

The current project is undergoing review in 2012.

Current PTE = 20 tpy VOC
Proposed PTE = 30 tpy VOC
Baseline Actuals = 15 tpy VOC

Question: Is the project a major project? 30 tpy - 15 tpy = 15 tpy increase

Answer: Yes, the project is a major project. The project increase is 15 tpy, which exceeds the five tpy netting significant emission rate for serious and severe nonattainment areas. The project is a major project and netting is required.

The particular facility being affected by this project has been affected by three other projects within the last five years (multiple changes at the same facility within the contemporaneous period).

The three other projects affecting this facility are:

| | | | |
|---|---|---|---|
| 2008: | PTE = | 15 tpy | Project Change: |
| | Proposed PTE = | 25 tpy | 25 tpy - 15 tpy = 10 tpy |
| | Baseline Actuals = | 15 tpy | |
| 2009: | PTE = | 25 tpy | Project Change: |
| | Proposed PTE = | 25 tpy | 25 tpy - 15 tpy = 10 tpy |
| | Baseline Actuals = | 15 tpy | |

| | | | |
|---|---|---|---|
| 2010: | PTE = | 25 tpy | Project Change: |
| | Proposed PTE = | 25 tpy | 25 tpy - 15 tpy = 10 tpy |
| | Baseline Actuals = | 15 tpy | |

The netting calculation includes the current project and all other projects within the contemporaneous period, looking back five-years. 15 tpy + 10 tpy + 10 tpy + 10 tpy = 45 tpy increase.

It should be noticed that the proposed PTE (i.e., the allowable) for this facility is only 30 tpy. The result of the netting calculation shows a net emissions increase that is greater than the allowable emission rate authorized for this facility. This netting result indicates that portions of the emission increases from this facility have been counted more than once in the traditional netting exercise.

Netting using Endpoints methodology:

2008 Project: 25 tpy - 15 tpy = 10 tpy
2009 Project: 25 tpy - 25 tpy = 0 tpy
2010 Project: 25 tpy - 25 tpy = 0 tpy
2012 Project: 30 tpy - 25 tpy = 5 tpy

The endpoints netting calculation includes the current project and all other projects within the contemporaneous period for this facility, looking back five-years. 10 tpy + 0 tpy + 0 tpy + 5 tpy = 15 tpy increase.

The netting calculation, utilizing the endpoints netting approach, results in a 15 tpy emission increase.

The contemporaneous net increase of 15 tpy is less than the major modification significant emission rate for a serious nonattainment area. The project “nets out” of nonattainment review; however, the project is still subject to the requirements of the minor NSR program.

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Example 20:

A modification is proposed that would allow for increased production at a cement kiln. The owner or operator has demonstrated that demand for cement is, and will likely continue to be, higher than experienced during any sustained period over the last ten years. They have identified the baseline period as the years 2008 and 2009. The baseline actual emission rate during this period was 710 tpy. The owner or operator also indicates that the baseline actual emission rate does not include an adjustment for emissions that they were capable of accommodating during the baseline period.

Question: How can the owner or operator make an argument that they should be able to include the emissions that they were capable of accommodating into their major NSR applicability analysis?

Answer: The owner or operator proposes to determine what could have been accommodated by determining the highest production for a 30 day period (that's a 30 consecutive day time frame, not a few days here and a day or two there, added to obtain a 30 day value) during the baseline time frame, and verify that they have and will operate for 24 consecutive months without an extended shutdown. That annualized production rate represents what they could have produced during the baseline period.

The actual emissions that would be associated with this annualized production rate are estimated by multiplying the ratio of the rate at which they could have produced and the actual production rate during the baseline period by the baseline emission rate. In this example, the ratio of what they could have produced compared to what they did produce during that time frame is 1.2. Multiplying the ratio of what they could have produced compared to what they did produce (1.2) by the baseline actual emission rate (710 tpy) results in a value of 852 tpy. This method utilizes actual emission data and corrects it to an operating level actually achieved over a sustained period, which approximates the operating level that could have been accommodated during the baseline period. In this example, that emission rate (852 tpy) includes emissions that could have been accommodated (852 tpy – 710 tpy or 142 tpy) and can be used in a major NSR applicability evaluation. Remember, if any of the emissions that could have been accommodated are related to the physical/operational change that a company is requesting, those emissions must be considered to be a part of the modification and cannot be included in the baseline as accommodated emissions.