Current NSR+PSD Area Classifications, plus offset calculations

**Current Requirements**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Source Classif. | **Sources subject to NSR PSD** | **Attainment** |  | **Non-attain.** |  | **Maintenance** |
| Minor (< SER) | no requirements for all areas |  |  |  |  |  |
| Major(SER to Federal Major) | BACT or LAER |  |  | LAER |  | BACT |
| Offsets |  |  | yes |  | yes \* |
| NAQB |  |  | yes |  | yes \* |
| AQ Anal.: Class II/III NAAQS and Increments |  |  |  |  | yes |
| AQ Anal.: Class I NAAQS and Increments |  |  |  |  | yes |
| AQ Anal.: Eval. alternative sites, processes, etc. |  |  | yes if >100 tpy |  |  |
| Federal Major | BACT or LAER | BACT |  | LAER |  | BACT |
| Offsets | yes\*\* |  | yes |  | yes \* |
| NAQB | yes\*\* |  | yes |  | yes \* |
| AQ Anal.: Class II/III NAAQS and Increments | yes |  |  |  | yes |
| AQ Anal.: Class I NAAQS and Increments | yes |  |  |  | yes |
| AQ Anal.: Evaluate alternative sites, processes, etc. |  |  | yes if>100 tpy |  |  |
| AQ Anal.: Additional Impacts | yes |  |  |  | yes |
| AQ Anal.: Class I AQRV Protection | yes |  | yes |  | yes |
| AQ Monitoring | yes |  |  |  |  |
| May also be subject to Attainment PSD requirements |  |  |  |  | yes |
|  |  |  |  |  |  |  |
| Source Classif. | **Sources not subject to NSR PSD** |  |  |  |  |  |
| Minor (< SER) | no requirements for all areas |  |  |  |  |  |
| Major(SER to Federal Major) | Offsets  |  |  | yes |  | yes \* |
| NAQB  |  |  | yes |  | yes \* |
| AQ Anal.: Class II/III NAAQS and Increments | yes |  |  |  | yes |
| AQ Anal.: Class I NAAQS and Increments | yes |  |  |  | yes |
| Federal Major  | Offsets  |  |  | yes |  | yes \* |
| NAQB  |  |  | yes |  | yes \* |
| AQ Anal.: Class II/III NAAQS and Increments | yes |  |  |  | yes |
| AQ Anal.: Class I NAAQS and Increments | yes |  |  |  | yes |
| AQ Anal.: Class I AQRV Protection | yes |  | yes |  | yes |

\* With specified exemptions and alternatives

\*\* If impacting Nonattainment or Maintenance Areas; or PM10 Maintenance Areas with specified exemptions and alternatives

**Proposed Requirements**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Source Classif. | **Major New Source Review****(Sources subject to NSR PSD)** | **Attainment** | **Potential NA** | **Non-attain.** | **Transitional** | **Maintenance** |
| Minor (<SER) | no requirements for all areas |  |  |  |  |  |
| Minor (SER to 99) |  |  |  |  |  |  |
| Oregon Major (>=100 tpy) | BACT or LAER |  |  | LAER |  | BACT |
| Offsets |  |  | yes, 1.2-1.0:1 |  | yes \* |
| NAQB |  |  | yes, =offsets |  | yes, = offsets \* |
| AQ Anal.: Class II/III NAAQS and Increments |  |  |  |  | yes |
| AQ Anal.: Class I NAAQS and Increments |  |  |  |  | yes |
| AQ Anal.: Eval. alternative sites, processes, etc. |  |  | yes if >100 tpy |  |  |
| Federal Major | BACT or LAER | BACT | BACT | LAER | LAER | BACT |
| Offsets | yes\*\* | yes, ≤1.0:1 | yes, ≤1.2:1 | yes, ≤1.2:1 | yes \* |
| NAQB |  =offsets\*\* | =offsets | =offsets | =offsets | =offsets \* |
| AQ Anal.: Class II/III NAAQS and Increments | yes | yes |  | yes | yes |
| AQ Anal.: Class I NAAQS and Increments | yes | yes |  | yes | yes |
| AQ Anal.: Evaluate alternative sites, processes, etc. |  |  | yes if>100 tpy | yes if>100 tpy |  |
| AQ Anal.: Additional Impacts | yes | yes |  | yes | yes |
| AQ Anal.: Class I AQRV Protection | yes | yes | yes, vis. only? | yes, vis. only? | yes |
| AQ Monitoring | yes\* ??? | yes\*\*\* |  | yes\*\*\* |  |
| May also be subject to Attainment PSD requirements |  |  |  |  | yes |
| Must not cause a new violation of a NAAQS |  | yes??? |  |  |  |
| Source Classif. | **Minor New Source Review****(Sources not subject to Major New Source Review)** |  |  |  |  |  |
| Minor (<SER) | no requirements for all areas |  |  |  |  |  |
| Minor (SER to 99) |  | NAAQS,PSD increments | offsets at 1:1 or less if from priority sources,NAAQS,PSD increments | BACT, offsets at 1:1 or less if from priority sources | BACT,offsets at 1:1 or less if from priority sources,NAAQS,PSD increments | BACT,offsets at 1:1 or less if from priority sources,NAAQS,PSD increments |
| Major >=100 tpy | Offsets  |  | yes, ≤1.0:1 | yes, ≤1.0:1 | yes \* | yes \* |
| NAQB  |  |  | =offsets | =offsets \* | =offsets \* |
| AQ Anal.: Class II/III NAAQS and Increments | yes | yes |  | yes | yes |
| AQ Anal.: Class I NAAQS and Increments | ??? | ??? |  | ??? | ??? |
| Federal Major  | Offsets  |  | yes, ≤1.0:1 | yes, ≤1.0:1 |  | yes \* |
| NAQB  |  |  | =offsets |  | =offsets \* |
| AQ Anal.: Class II/III NAAQS and Increments | yes | yes |  |  | yes |
| AQ Anal.: Class I NAAQS and Increments | ??? | ??? |  |  | ??? |
| AQ Anal.: Class I AQRV Protection | yes | yes | yes | yes | yes |

\* With specified exemptions and alternatives

\*\* If impacting Nonattainment or Maintenance Areas; or PM10 Maintenance Areas with specified exemptions and alternatives

\*\*\* No exemptions or alternatives

Offset concept for encouraging sources to get offsets from “priority” sources (e.g. woodstoves) in a non-attainment area.

***NOTE: change name from “problem” sources to “priority” sources ?***

The offset ratio varies depending on the offsets from the priority sources. Over the range of offsets from the priority sources from 0 to 10 percent, the offset ration varies linearly, with the minimum offset ratio of 1.0 to 1 when 10 percent of the source’s emissions are offset by priority source emissions. The maximum offset ratio is 1.2 to 1 when 0 percent of the source’s emissions are offset by priority source emissions. Over the range of offsets from the priority sources from 10 to 100 percent, the offset ratio is constant at 1.0 to 1.

DEQ has taken this approach because we recognize that while obtaining offsets from the priority sources in an area is most desirable, it is also likely to be more difficult than obtaining offsets from industrial sources. Thus, although there is no incentive to obtain more than 10 percent of the offsets from the priority sources, there is a significant incentive to obtain at least some of the offsets from the priority sources.

|  |  |
| --- | --- |
| **Terms** | **Procedure** |
| E = new or modified source emissions which must be offset, tons per yearR = offset ratioT = total offsets required, tons per yearP = offsets from priority sources, tons per yearI = offsets from industrial sources, tons per yearT = E\*R = P + IF = percentage of E from priority sources = P/E\*100* When F is 0 percent, R = 1.20
* When F is 5 percent, R = 1.10
* When F is ≥10 percent, R = 1.00
 | 1. For a specific situation, E will be known.
2. Determine offsets P from the priority sources:
* P = tons per year of offsets from priority sources
* P is rounded to the nearest whole ton.
1. Calculate F:
* F = P/E\*100
* F is rounded to nearest whole percent.
1. Determine R:
* R = 1.20 - 0.02\*F (with F expressed as a percentage) over the range of F from 0 to 10 percent.
	+ R must be rounded off to 2 decimal places; if the result is < 1.00, then R = 1.00.
* R = 1.00 over the range of F from 10 to 100 percent.
1. Determine total offsets required:
* T = E\*R
* T is rounded to the nearest whole ton.
1. Determine industrial offsets required:
* I = T - P
 |

Note:

There is a possible different approach for F, but it’s much more difficult to use. In this other approach, the percent (or fraction) F is the fraction of the total offsets required (i.e. E\*R), not the fraction of the emissions that must be offset (E) as above. This approach is more difficult because as the offset ratio varies, the total number of offsets also varies, but the offset ratio is a function of the total number of offsets. In other words, the offset ratio R is a function of itself and the math becomes rather cumbersome. After playing around with it for a day, I went with the simpler approach above.

E = source emissions subject to offset requirements

R= offset ratio

T = total offsets required = E\*R

P = offsets from priority sources (eg. woodstoves)

I = offsets from industrial sources

T = E\*R = P + I

F = fraction of total offsets from priority sources = P/(P+I) or F = P/T and P = F\*T