Nonattainment Updates
Meaningful Change
Rules 290 and 291

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Air Quality Division
SIP Development Unit

April 30, 2019
Nonattainment Updates

Nonattainment Areas for the 2015 Ozone Standard

Ozone Designation
- Nonattainment
- Attainment/ Unclassifiable
Nonattainment Updates

• Attainment is a Design Value of <=70 ppb
  – A three-year average
  – Classification – Marginal (but “bump ups” if we don’t meet deadlines)
  – Attainment by 2021
  – SIP submitted by 2021
  – Assessed using 2018, 2019, 2020
Nonattainment Updates

2018 4th High Ozone
Nonattainment Updates
Nonattainment Updates

What do we HAVE to do?

Nonattainment New Source Review permitting
(Part 19 rules)

• LAER
• Offsets
• Compliance
Nonattainment Updates

What are we working on?

- Conceptual Model
  - Studies
  - Prescribed burning
  - Formaldehyde

- Control Strategies
  - RACT Rules
    - MMA Survey
    - Talking to affected companies about applicability/effectiveness
    - Considering recordkeeping “offramps”
Nonattainment Updates

What are we working on? (cont.)

– Control Strategies (cont.)
  • OTC Rules
    – Consumers Products, AIM Coatings, etc.
    – Talking to companies about applicability/effectiveness
  • Voluntary programs
    – USEPA’s Advance program
    – SEMAQS, West Michigan Clean Air Coalition
  • Other ideas
    – NOx boiler tune-ups
    – Suggestions?
Nonattainment Updates

What’s “on the table”?

– CAA Section 179B(b) – “but for”
  (looking at precedent, contributions from Canada, discussions with EPA, etc.)

– Offset rules

– Extension(s)

– Suggestions?
Meaningful Change

• Used in Rule 285(2)(b), (c), and (f)
• Rule 285(3) Definition
• Meant to address “ad-hoc” rulemaking
• Policy and Procedure # AQD-025
• Considering some additional “guidance”

<table>
<thead>
<tr>
<th>DEQ</th>
<th>Air Quality Division POLICY AND PROCEDURE</th>
<th>DEPARTMENT OF ENVIRONMENTAL QUALITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original Effective Date: May 9, 2017</td>
<td>Subject Permit Exemption for Changes in a Process or Process Equipment That Are Not A Meaningful Change or a Meaningful Increase in Toxic Air Contaminants</td>
<td>Category: Internal/External Permits/Non-Regulatory</td>
</tr>
<tr>
<td>Revised Date: N/A</td>
<td>Program Name: Air Permit To Install</td>
<td>Type: Policy Procedure</td>
</tr>
<tr>
<td>Reformatted Date: N/A</td>
<td>Number: AQD-025</td>
<td>Policy and Procedure</td>
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</tbody>
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INTRODUCTION:

This procedure discusses the use of Rule 285(1285) (Rule 285) in the Permit to Install (PTI) program, specifically the application of the term “meaningful.” There are instances when owner/operators have received a PTI and at a later time they consider making relatively small changes in the permitted process or process equipment. They may apply for a new PTI for the proposed changes or evaluate if the desired changes are allowed under a Rule 285 exemption. This procedure is intended to provide further guidance for those decisions, for owner/operators and for DEQ Air Quality Division (AQD) staff.

AUTHORITY:

Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 481, as amended, requires companies to obtain a PTI for certain sources of air emissions. Under Section 5505(2), rules have been promulgated to establish a PTI program administered by the department. The PTI program is applicable to each new or modified process or process equipment that emits or may emit an air contaminant. Under Section 5505(4), the department has also promulgated rules to exempt certain sources, processes or process equipment, or certain modifications to a source, process or process equipment, from the requirement to obtain a PTI.

In the Air Pollution Control Rules, Part 2 (Air Use Approval), R 286 1278 (Rule 278) excludes certain sources from PTI exemptions specified in R 338 1280 to R 338 1297 (Rules 260 to 291). R 330 1278a (Rule 278a) describes the information necessary for an owner/operator to demonstrate the applicability of a specific exemption listed in Rules 260 to 291.

R 338 1285(2)(b) (Rule 285(2)(b)) provides an exemption from the requirement to obtain a PTI for:

(a) Changes in a process or process equipment which do not involve installing, constructing, or reconstructing an emission unit and which do not involve any meaningful change in
Meaningful Change

Not “Meaningful” – Draft

- It’s now a rule, not much flexibility

(3) For the purposes of this rule, “meaningful” with respect to toxic air contaminant emissions is defined as follows:

- “Meaningful change in the quality and nature” means a change in the toxic air contaminants emitted that results in an increase in the cancer or non-cancer hazard potential that is 10% or greater, or which causes an exceedance of a permit limit. The hazard potential is the value calculated for each toxic air contaminant involved in the proposed change, before and after the proposed change, and it is the potential to emit

- Work with Permit Section
  - Establish Hazard Potential/base case as part of permitting process
Meaningful Change

“Meaningful” - Draft

• Rule 285(2)(c) might provide flexibility

(c) Changes in a process or process equipment that do not involve installing, constructing, or reconstructing an emission unit and that involve a meaningful change in the quality and nature or a meaningful increase in the quantity of the emission of an air contaminant resulting from any of the following:

...involve a meaningful change...

(iii) Changes in a process or process equipment to the extent that such changes do not alter the quality and nature, or increase the quantity, of the emission of the air contaminant beyond the level which has been described in and allowed by an approved permit to install, permit to operate, or order of the department.

...allowed by an approved permit to install...
Meaningful Change

“Meaningful” - Draft

- Rules 224/225/226
  If you’d be exempt from a toxics review anyway...
- Compliance using AER/AIR
- Use generic or historic modeling results
- Combination
- Case-by-case
Meaningful Change

Permit condition flexibility - Draft

• Historically
  – Require a lot of work upfront
  – Require substantial recordkeeping

• Chemical plants, automotive

• Get creative with special conditions
Meaningful Change

Pitfalls, warnings and work to do - Draft

• Limits when you approach screening levels?
• Don’t assume (calcs & modeling can change)
• Might not be a solution for smaller sources
• Spreading work around (permits, field inspectors, modelers, toxics, etc.)
Rule 290

-Finishing up work on some updated outreach documents

-This should replace Form EQP 3558
Rule 290

Option 1 - Rule 290 – Step by Step

Looking at Rule 290 in a step by step manner is sometimes helpful to determine whether this Rule 201 permit exemption is appropriate for your process.

**Step 1**
- Define Emission Unit (EU) and Compare to Rule 278
- If pass Rule 278, move to step 2

**Step 2**
- For particulate - do not count towards total emissions if it: has no IRSL, is controlled to 0.01 lbs/1000 lbs of exhaust gas, uses a baghouse < 30,000 cfm, has an ITSL > 2 ug/m^3, and is less than 5% opacity

**Step 3**
- Determine if EU will be controlled or Uncontrolled:
  - 10 lbs/500 lbs - limits for controlled
  - 20 lbs/1000 lbs - limits for uncontrolled

**Step 4**
- Calculate CO_2 equivalent emissions
  - _____ lbs/month (if greater than 6250 tons -> not exempt, stop!)

**Step 5**
- Calculate noncarcinogenic VOC’s and noncarcinogenic materials listed in 122(1)
  - _____ lbs/month (if greater than 500/1000 lbs. -> not exempt, stop!)
  - Examples: Toluene, Hexane, Acetone, HFC’s, etc.

Option 2 - Rule 290 Bins

Thinking of Rule 290 calculations in this manner may also help visualize how pollutants should be categorized and calculated.

- The values listed below are allowable emission limits in pounds or tons for each category under Rule 290.
- Because pollutants may have multiple screening levels, contaminants might need to be considered in multiple IRSL/ITSL bins, but only consider the emission ONCE as part of the “combined total”.
- Particulate matter meeting the appropriate criteria do not count toward the “combined total”, however any particulate that doesn’t meet that criteria needs to be accounted for in the appropriate bin.

**CO_2**

- Noncarcinogenic VOCs
- Noncarcinogenic Materials in 122(1)
- Mercury (Hg)
- Lead (Pb)
- IRSL
- **ITSL**
- **All Other Air Contaminants (Nox, SO2, etc.)

Combined Total = 500/1,000 lbs/month

Particle Matter

- PM10
- PM2.5
- <2.5 lbs/month
- <10 lbs/month
- <5000 cfm
- <10% opacity
- ITSL > 2.0

Working on Option 3 – table format
Rule 291

• Not SIP approved (yet)

• Based on potential emissions

• No ongoing recordkeeping
  • Date of installation
  • Description of Emission Unit
  • Determination
  • TAC screening level (ITSL/IRSL) at time of installation

• Allows small amounts of TACs < 0.04 µg/m³
## Rule 291

### Rule 291 (2)(a)-(d) – Toxics test

**Step 1**

<table>
<thead>
<tr>
<th>TACs Conditions</th>
<th>TACs Conditions</th>
<th>TACs Conditions</th>
<th>Asbestos and/or Subtilisin Proteolytic enzymes</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \geq 0.04 \mu g/m^3 ) and ( &lt; 2.0 \mu g/m^3 )</td>
<td>( \geq 0.005 \mu g/m^3 ) and ( &lt; 0.04 \mu g/m^3 )</td>
<td>( &lt; 0.005 \mu g/m^3 )</td>
<td>NO EMISSIONS</td>
</tr>
<tr>
<td>( &lt; 0.12 ) tons/ \text{year}</td>
<td>( &lt; 0.06 ) tons/ \text{year}</td>
<td>( &lt; 0.006 ) tons/ \text{year}</td>
<td></td>
</tr>
</tbody>
</table>
### Rule 291

#### Step 2

<table>
<thead>
<tr>
<th>Air Contaminant</th>
<th>Potential Emissions Not to be Exceeded</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO₂ equivalent</td>
<td>75,000 tons per year</td>
</tr>
<tr>
<td>CO</td>
<td>10 tons per year</td>
</tr>
<tr>
<td>NOₓ</td>
<td>10 tons per year</td>
</tr>
<tr>
<td>SO₂</td>
<td>10 tons per year</td>
</tr>
<tr>
<td>VOC (as defined in R 336.1122)</td>
<td>5 tons per year</td>
</tr>
<tr>
<td>PM</td>
<td>10 tons per year</td>
</tr>
<tr>
<td>PM₁₀</td>
<td>5 tons per year</td>
</tr>
<tr>
<td>PM₂.₅</td>
<td>3 tons per year</td>
</tr>
<tr>
<td>Lead</td>
<td>0.1 tons per year</td>
</tr>
<tr>
<td>Fluorides</td>
<td>1 ton per year</td>
</tr>
<tr>
<td>Sulfuric acid mist</td>
<td>0.12 tons per year</td>
</tr>
<tr>
<td>Hydrogen sulfide</td>
<td>2 tons per year</td>
</tr>
<tr>
<td>Total reduced sulfur</td>
<td>2 tons per year</td>
</tr>
<tr>
<td>Reduced sulfur compounds</td>
<td>2 tons per year</td>
</tr>
<tr>
<td>Total mercury</td>
<td>0.12 pounds per year</td>
</tr>
<tr>
<td>Total toxic air contaminants not listed in table 23 with any screening level</td>
<td>5 tons per year</td>
</tr>
<tr>
<td>Total air contaminants not listed in table 23 that are non-carcinogenic and do not have a screening level</td>
<td>6 tons per year</td>
</tr>
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</table>