Air quality permitting, Heat Smart and gasoline dispensing facility updates

12/02/14 Meeting with Dick Pedersen

1. GHG Supreme Court Decision
2. Columbia Gorge Response to Comment
3. Opacity/Grain Loading
4. Deposition
5. Gasoline Marine Loading Rule
6. NSR/PSD and Sustainment Area Designation – Lakeview

**1. GHG Supreme Court Decision**

* Effect of Decision

|  |  |
| --- | --- |
| **Before Decision** | **After Decision** |
| Source could be subject to Title V for GHG alone | struck down |
| Source could be subject to Prevention of Significant Deterioration (PSD) and Best Available Control Technology (BACT) review for GHG alone | struck down |
| Source could be subject to Best Available Control Technology (BACT) review for GHG if source was subject to Prevention of Significant Deterioration (PSD) for a pollutant other than GHG  (these are so-called “anyway sources” - subject to PSD anyway) | affirmed |

* Effect on EPA rules and about 15 other states
  + Court’s action ***automatically*** invalidated their rules
  + No action required to implement the court’s decision
* In Oregon and about 34 other states
  + Court’s action ***did not*** automatically invalidate their rules - rules same as “Before Decision” column
  + Rule changes required to implement the court’s decision
* Effect of GHG BACT

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| **Combustion emissions - majority of sources** | **Semiconductor industry** |
| Source of emissions - combustion of fuels | Source of emissions - use of fluorinated compounds (HFC, PFC, SF6, NF3) in production processes |
| Emission controls - none | Emission controls exist and are in use |
| Capture and Sequester CO2   * pump emissions into deep wells, hope the CO2 stays there   + Very expensive   + Requires specific geological formations to actually work   + Not legal in Oregon * pump emissions deep into ocean   + Very expensive   + Increasing CO2 in the ocean is questionable | Not an option, most emissions are not CO2 |
| BACT focus is on energy efficiency   * Reducing fuel use reduces GHG emissions * Other factors besides BACT also promote energy efficiency   + ODOE CO2 offset program   + Economics - minimize operating cost | Not applicable |

* GHG BACT pros and cons

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| **Pros** | **Cons** |
|  | Energy efficiency is the only real option |
| For combustion emissions, energy efficiency is desirable | Energy efficiency is already promoted by other agencies and economic factors - additional value of BACT is questionable |
| For the semiconductor industry, require continued use of emission controls | Semiconductor industry appears to be very opposed to doing a BACT analysis |
| When PSD is triggered, other pollutants are pulled into the BACT analysis as well   * Could result in emission reductions for other pollutants besides GHG |  |

Decision needed

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| **Align DEQ rules with Supreme Court ruling – Title V and PSD permits not required for GHGs alone**  **“anyway sources” still subject to GHG BACT** | **Keep existing DEQ rules –Title V and PSD permits for GHGs alone still required** |
| National equity for Oregon sources | Aligns with DEQ policy to reduce GHG emissions |
| AOI supports this approach | Intel and other semiconductor facilities will have to do BACT for GHGs |
|  | More scrutiny for GHG sources on Title V permits |
|  | Environmental organizations and general public support this approach |

**2. Columbia River Gorge Response to Comment**

Background

* In early 2014, DEQ issued a permit to construct Troutdale Energy Center
  + electrical generating plant in Troutdale
  + located close to Columbia River Gorge National Scenic Area (CRGNSA)
* US Forest Service analysis showed that TEC emissions would have impacts on CRGNSA greater than allowable impacts in Class I areas
  + Class I areas are national parks, national forests and national wilderness areas - CRGNSA is not a Class I area
  + USFS was offended by DEQ response to their concerns
* CRGNSA is protected by National Scenic Area Act
  + the act does not set standards for scenic areas
  + the act uses imprecise language (i.e. not more than moderate impacts on the area)
  + Gorge Strategy was developed to comply with the act (DEQ, SWCAA, Gorge Commission)
* DEQ issued the permit
  + consistent with Gorge Strategy
  + impacts were acceptable
* Friends of the Columbia Gorge filed suit against DEQ, suit is pending
* Current rules “encourage” sources to analyze visibility and other impacts on the CRGNSA
* In this rulemaking, DEQ proposed to change “encourage” to “require”
* FOCG submitted a number of comments
  + comments would basically make CRGNSA into a Class I area
* TEC would not be able to get a permit if CRGNSA were Class I, or would incur significantly higher costs to reduce impacts

Proposed response to comments

* Do not accept any of FOCG’s comments
* Either:
  + Leave rules as proposed (change “encourage” to “require”)
  + Make no changes to the rules at all (keep existing language as is)
* Re-examination of the Gorge Strategy is outside the scope of this rulemaking
* Continued dialogue with all parties is desirable, but is an AQ Planning function

**3. Opacity/Grain Loading**

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| **Date** | **Original Concept** | **Mitigated Concept** |
| Existing | 0.2 gr/dscf and 40% |  |
| Proposed | 0.10 gr/dscf | * 0.10 unless the source shows test results > .080 prior to Nov. 2014 * Otherwise, standard is 0.2 through Dec. 2019 (no change) * 0.15 beginning Jan 1, 2020 * Extensions:   + Unable to comply, request a one year extension provided the owner operator submits engineering report signed by PE that demonstrates source cannot comply with standard without making significant changes to equipment, control equipment or adding control equipment. * Exceptions:   + Equipment or mode of operation < 876 hours per calendar year – stay at 0.20   + Unable to meet 0.15, owner or operator may request that DEQ set a source specific limit of 0.17 if owner or operator submits an engineering report of the optimization evaluation signed by a registered professional engineer. |
| Proposed | 20% opacity | * 40% through 2019 * 20% on or after Jan 1, 2020 * Exceptions:   + Emissions can exceed 20% for 12 minutes in an hour but must be less than 40%.   + Emissions can exceed 20% but must be less than 40%, provided the emissions occur during grate cleaning operation according to an approved grate cleaning plan.   + Source can get greater than 20% opacity if source test demonstrates that they exceed 20% and can meet the grain loading standard of 0.15 gr/dscf. |

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| **Pre-1970 Boilers > 0.10 gr/dscf** | | | |
| **Source** | **Emissions Unit** | **Test Date** | **Grain Loading** |
| Boise Cascade (Pilot Rock)  30-0016 | Early 1940s Babcock & Wilcox Dutch-oven boiler, 20,000 lb steam/hr; backup to NG fired boiler | 8/3/2004 | 0.080 |
| 7/12/2005 | 0.140 |
| 9/26/2006 | 0.170 |
| 11/8/2007 | 0.130 |
| 11/20/2008 | 0.100 |
| 10/25/2011 | 0.140 |
| Early 1940s Babcock & Wilcox Dutch-oven boiler, 20,000 lb steam/hr; backup to NG fired boiler | 7/13/2005 | 0.180 |
| 9/27/2006 | 0.160 |
| 11/8/2007 | 0.140 |
| 11/21/2008 | 0.160 |
| 12/15/2009 | 0.150 |
| 12/1/2010 | 0.190 |
| 10/24/2011 | 0.170 |
| 8,000 lb steam/hr; backup to NG fired boiler | 8/5/2004 | 0.060 |
| 7/12/2005 | 0.060 |
| 9/27/2006 | 0.100 |
| 10/25/2011 | 0.063 |
| Columbia Forest Products  18-0014 | 1939 EF Huffman Dutch oven BLR-N, 12,500 lb steam/hr | 6/20/2001 | 0.100 |
| 11/16/2007 | 0.090 |
| 11/1/2011 | 0.140 |
| 1944 C& E Dutch oven BLR-S, 35,000 lb steam/hr, w/multiclone | 6/20/2001 | 0.100 |
| 10/8/2002 | 0.170 |
| 11/4/2003 | 0.190 |
| 12/10/2004 | 0.140 |
| 11/18/2005 | 0.140 |
| 11/21/2006 | 0.140 |
| 11/15/2007 | 0.170 |
| 11/18/2008 | 0.170 |
| 11/24/2009 | 0.110 |
| 11/9/2010 | 0.080 |
| 11/2/2011 | 0.120 |
| 11/6/13 | 0.13 |
| Frank Lumber  22-2525 | 1969 Wyatt & Kipper spreader stoker boiler, 30,000 lb/hr steam, w/multiclone | 1989 | 0.19 |
| 1997 | 0.178 |
| 08/17/2004 | 0.137 |
| 08/25/2009 | 0.137 |
| **Pre-1970 Boilers > 0.10 gr/dscf** | | | |
| **Source** | **Emissions Unit** | **Test Date** | **Grain Loading** |
| Interfor Pacific  18-0005 | 1939 Wickes Dutch oven boiler, 50,000 lb/hr, w/multiclones and economizer | 3/11/1997 | 0.210 |
| 8/12/1997 | 0.125 |
| 9/23/1998 | 0.097 |
| 6/17/2004 | 0.110 |
| 9/11/2012 | 0.130 |
| 1939 Wickes Dutch oven boiler, 50,000 lb/hr, w/multiclones and economizer | 8/12/1997 | 0.196 |
| 9/23/1998 | 0.086 |
| 9/23/1999 | 0.140 |
| 3/30/2010 | 0.150 |
| 9/12/2012 | 0.130 |
| Swanson Group Roseburg  10-0030 | 1968 Kipper boilers, pin hole grate, mechanical stoker, 31,800 lb steam/hr, w/multiclone | 10/01/2010 | 0.17 |
| 10/06/2011 | 0.17 |
|  |  |  |  |
| **Post-1970 Boilers > 0.10 gr/dscf** | | | |
| **Source** | **Emissions Unit** | **Test Date** | **Grain Loading** |
| Collins (Fremont Sawmill)  19-0002 | ’75 Wickes Dutch oven, 18,000 lb/yr, w/multiclone | 4/5/2006 | 0.090 |
| 5/20/2008 | 0.130 |
| ’89 Trane-Murray Dutch oven, 24,000 lb/hr, w/multiclone | 4/6/2006 | 0.080 |
| 5/19/2008 | 0.090 |
| Prineville Sawmill  07-0021 | HFB (not operating) | 2008 | 0.16 |
| Umpqua Lumber  10-0027 | 1975 Wellons boiler, 20,000 lb/hr, w/multiclone | 11/2010 | 0.105 |
|  |  |  |  |
| **Asphalt Plants** | | | |
| Harney Rock and Paving  13-0010 | Asphalt plant | 1999 | 0.22 |
| Humbert Asphalt  37-0112 | Asphalt plant | 07/2003 | 0.11 |
| Rogers Asphalt Paving  31-0001 | Asphalt plant |  | 0.11 |

**4. Deposition**

**340-208-0450**

**Particle Fallout Limitation**

**PRE-2001 LANGUAGE**

No person shall cause or permit the emission of particulate matter which is larger than 250 microns in size provided if such particulate matter does or will deposit upon the real property of another person.

**2001 LANGUAGE**

No person may cause or permit the emission of particulate matter larger than 250 microns in size at sufficient duration or quantity as to create an observable deposition upon the real property of another person when notified by the department that the deposition exists and must be controlled.

**2014 PROPOSED LANGUAGE**

(1) No person may cause or permit the deposition of particulate matter larger than 250 microns in size that creates an observable deposition upon the real property of another person.

(2) Upon determining that deposition has occurred, DEQ will notify the person creating the deposition that they are in violation of this rule. DEQ will endeavor to resolve observed deposition in keeping with the policy outlined in OAR 340-12-0026. If DEQ initiates a formal enforcement action, pursuant to OAR 340 division 12, for violation of this rule, then DEQ may not assess civil penalties for any such violation(s) that occurred prior to the date that DEQ sent the notice required under this section.

**2015 REVISED LANGUAGE**

No person may cause or permit the deposition of particulate matter larger than 250 microns in size at sufficient duration or quantity as to create an observable deposition upon the real property of another person when notified by the department that the deposition must be controlled. A permit issued under OAR 340 division 216 or 218 that includes a condition based on this rule constitutes notification by DEQ that the deposition must be controlled.

AOI comment on proposed rule language:

* Undoes the revisions that AOI and DEQ worked so hard to develop address the issue of how Title V sources can certify compliance, saying there was only noncompliance if DEQ informed the source that a nuisance was created
* Increases stringency as DEQ proposes to delete the current language includes the concept of duration and quantity

DEQ response:

* Sources should not have to be notified by DEQ that they are creating a nuisance
* No other rule language as such a restriction
* Enforcement will be handled in guidance

**5. Gasoline Marine Loading Rule**

Background

* Current rule requires control of gasoline vapor emissions
  + when gasoline is loaded onto marine vessels (ships and barges) at large terminals
  + applies only to gasoline
  + applies only in the Portland area
* Purpose is to reduce VOC emissions to help reduce ozone levels
* Staff anticipates that Bakken crude oil will eventually be stored and transloaded at Portland terminals
  + Bakken crude involved in recent train catastrophes (Lac-Mégantic, Quebec, and Casselton, N. Dakota)
  + Bakken crude is very volatile, more volatile (higher emissions) than gasoline
  + Volatility measured as Reid vapor pressure (RVP)
  + Current rules state that gasoline has RVP of 4.0 psi or more
* Staff aware that EPA might reduce the ozone standard - Portland might not exceed but will be closer
* Staff wanted to be pro-active, require control of emissions from marine loading all organic liquids

Proposed rule

* Proposed rule would require control of VOC emissions from all organic liquids with vapor pressure greater than 1.5 psi
* Comments received from terminals, WSPA and Port of Portland
  + Generally opposed to the proposed rule
  + PoP concerned about rule applying to LNG, LPG, propane
* Discussion with one terminal indicates they expect such a rule and are not opposed
  + Do want time to comply (3 years)
* Staff has reconsidered and believes original proposal was far too stringent
* Now considering requiring controls for:
  + Organic liquids with RVP of 4.0 psi or higher (Bakken crude is higher)
  + Organic liquids that must be heated (heavy crude oils, too thick to pump, must be heated, heating increases vapor pressure)
  + Exemption for organic liquids stored in pressurized tanks (LNG, LPG, propane, etc.)
* Staff plan to contact commenters and discuss this with them

**6. NSR/PSD and Sustainment Area Designation – Lakeview**

Background

* Current New Source Review/Prevention of Significant Deterioration rules have two problems:
  + Permitting roadblock under certain circumstances
  + Problem occurs when:
    - an area is classified as attainment/unclassfied (i.e. air quality is assumed to be good, below NAAQS), but
    - air quality is actually poor (above NAAQS)
  + Takes years to reclassify the area
    - in the meantime, applicants must model to show their facility will not cause or contribute to exceedance of a NAAQS
    - impossible because area already exceeds NAAQS
  + “Net Air Quality Benefit” (NAQB) modeling requirement in nonattainment or maintenance areas is essentially impossible to meet
* These problems prevent medium to large sources from getting a permit
* Rulemaking team was directed to find a way to eliminate these roadblocks
* New source review consists of two programs
  + Major new source review - must be at least as stringent as the federal program
  + Minor new source review - essentially a state program, more flexible because not subject to federal program requirements
* Current rules have a low threshold for triggering major new source review
  + lower than federal program requires

Chosen approach

* Because of requirement to be at least as stringent as federal program for large sources, there is nothing we can do to eliminate permit roadblocks for them
* Because there is more flexibility in minor (i.e. state) new source review, changes primarily affect state NSR:
  + Raise the threshold for triggering major new source review to the federal level
    - shifts medium size sources from major NSR program to state (minor) NSR program
  + Create two new area designations, in addition to attainment/unclassified, nonattainment and maintenance:
    - Sustainment area - technically attainment/unclassified but AQ is near or above NAAQS
    - Reattainment area - technically nonattainment but AQ has returned to below NAAQS
    - State designations, do not require EPA approval
    - These designations overlay the federal designations (i.e. sustainment overlays federal attainment designation, reattainment overlays federal nonattainment designation)
* Requirements in sustainment and reattainment areas designed to:
  + eliminate permit roadblock for medium size sources
  + provide incentive for new/expanding sources to help address the problem sources (i.e. woodstoves)
* NAQB requirements were changed to make it possible to meet them

Sustainment area

* Lakeview is currently attainment for PM2.5, but actually has exceeded the NAAQS
  + Proposal is to designate Lakeview as the first sustainment area
  + City of Lakeview and Lake County support this
* Hillsboro may exceed the PM2.5 NAAQS
  + No proposal to designate as sustainment at this time
  + Sustainment designation would be an option for the future

Result of chosen approach

* NSR program appears to be more complex
  + Partly perception because of the new areas and the fact that one division is now much larger
  + Partly true because some requirements are more complex
    - in some cases more stringent
    - in other cases because options were added to increase flexibility

Comments

* All commenters are opposed to the changes
  + Too complex
  + Increased stringency
  + Impossible to obtain permit in sustainment area
  + Changes poorly thought out

Staff response

* Significant review of proposed changes
  + Overall, the program accomplishes the goal of removing the permitting roadblocks
  + Program is not significantly more complex
  + division 224 is much larger, but this is largely due to
    - reorganizing rules to better define state new source review program and to pull in requirements currently in other divisions
    - adding requirements for sustainment and reattainment areas
  + all elements of the programs exist now
  + many existing elements unchanged
  + some elements changed, but changes were made to
    - accomplish goal of removing roadblocks
    - encourage new/expanding sources to help solve local AQ problem
* Some comments are based on misunderstanding of current problems, will explain in RTC
* Some proposed changes have been reversed
* Extensive effort to ensure the rules do what they are intended to do
* Overall, do what was proposed

**Columbia River Gorge Scenic Area Management Plan**

* Requires Air Quality Strategy

**Columbia River Gorge Compact**

* Establishes Columbia River Gorge Commission

**Columbia River Gorge National Scenic Area Act**

* Requires establishment of Columbia River Gorge Commission
* Calls for adoption of scenic area management plan to protect Gorge

**AUTHORITY**

* ORS 468.065(4) authorizes DEQ to require applicant to submit such other reasonable information necessary to determine the permit eligibility (including visibility and deposition analyses)
* ORS 196.155 directs and provides authority [to state agencies] to carry out their respective functions and responsibilities in accordance with the Gorge Compact and the National Scenic Area Act.

**Columbia River Gorge Air Study and Strategy**

(Gorge Commission/DEQ/SWCAA)

Identifies existing strategies that address sources impacting Gorge:

* Regional Haze Plan (including shutdown of PGE Boardman)
* Requirements for non-road sources
* Requirements for on-road sources
* Federal air toxics standards
* Heat Smart woodstove upgrades
* Prevention of Significant Deterioration requirements
* Requirements for burning
* Requirements for Portland/Vancouver area emissions
* Voluntary programs for ammonia from agricultural sources