State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

# Relationship to Federal Requirements

# Proposed Revisions to DEQ Regional Haze BART rules for the PGE Boardman Power Plant

***Answers to the following questions identify how the proposed rulemaking relates to federal requirements and potential justification for differing from, or adding to, federal requirements. This statement is required by OAR 340-011-0029(1).***

**1. Is the proposed rulemaking different from, or in addition to, applicable federal requirements? If so, what are the differences or additions?**

The proposed rulemaking is different from, or in addition to, applicable federal requirements because it is more specific than the federal requirements. Oregon is required by the federal Clean Air Act to establish Best Available Retrofit Technology ( BART) pollution controls for the PGE Boardman plant, pursuant to rules and guidelines established by the United States Environmental Protection Agency (EPA). However, while Oregon follows EPA rules and guidelines in establishing BART, the determination of what controls satisfy BART is made by Oregon. Also, applicable federal requirements do not require Oregon to establish multiple options for BART based upon potential early closure dates that PGE may choose, but because PGE has requested early closure options, DEQ is proposing options that are different from and are in addition to the minimum federal requirement to establish BART for the remaining useful life of the facility.

The federal regional haze rule requires BART for certain older industrial facilities built before 1977, if they are found to cause significant visibility impacts in Class I areas, and if installing new pollution controls is technologically feasible and cost effective.

The original BART rules for the Boardman plant that were adopted in 2009, as well as the additional options proposed in this rulemaking, were developed consistent with EPA guidance. For sources that are subject to BART, states are required to establish BART based on five factors:

1. Costs of compliance;
2. Energy and non-air environmental impacts
3. Existing controls at source
4. Remaining useful life of source
5. Visibility improvement reasonably expected from the technology

The proposed rulemaking responds mainly to the fourth factor, the remaining useful life of the source. Under EPA guidance, the capital costs of control measures are annualized over the remaining useful life of the plant. This rulemaking establishes BART requirements for

three options where the remaining useful life is shortened by a federally-enforceable shutdown provision.

EPA has not established national criteria for evaluating the five criteria, so states have some latitude in the metrics they use to establish the stringency of BART.

The adopted BART rules must be submitted to EPA for review and approval as a revision to the Oregon State Implementation Plan under OAR 340-200-0040.

**2. If the proposal differs from, or is in addition to, applicable federal requirements, explain the reasons for the difference or addition (including as appropriate, the public health, environmental, scientific, economic, technological, administrative or other reasons).**

DEQ had to establish criteria for evaluating the five factors required by federal law. DEQ used two cost-effectiveness criteria to evaluate the factors - the annualized cost per ton of emissions reduced and the annualized cost per unit of visibility improvement.

In determining the level of emission controls for each option, DEQ used a cost effectiveness threshold of up to $7,300 per ton of emissions reduced. This threshold is on the high end of thresholds used or considered by other states (a higher threshold results in more stringent emission control requirements). The reason that DEQ used a high threshold is that emissions from the plant have a significant impact on visibility in 14 Class I areas in Oregon and Washington.

As a result, even with a high cost per ton of emissions reduced, the proposal has a relatively low cost per unit of visibility improvement. DEQ used a cost effectiveness threshold of up to $10,000,000 per total deciview improvement, consistent with the threshold used for BART determinations in other states. The visibility improvement for each option is under this threshold level.

**3. If the proposal differs from, or is in addition to, applicable federal requirements, did the Department consider alternatives to the difference or addition? If so, describe the alternatives and the reason(s) they were not pursued.**

DEQ considered using a lower cost-effectiveness threshold, which would have resulted in less stringent emission control requirements for any given shutdown date. For example, some states have adopted BART requirements in the $3,000 to $5,000 per ton range. The Department did not pursue this alternative because the Boardman plant has a significant impact on visibility in 14 Class I areas in Oregon and Washington.

DEQ considered establishing alternative closure dates for one of the options in the proposal. Option 3 establishes a closure date for the plant that is five years after the date that EPA approves Oregon's Regional Haze plan. Depending on the final approval date, this could mean late 2015 or early 2016 under this option. DEQ considered an earlier closure date of July, 2014, which is the date that significant emission controls are required under the current rules. DEQ rejected this option because federal law does not require BART to be installed earlier than five years after plan approval.

DEQ considered a more stringent emission limit in one of the options in the proposal. Option 2 calls for an $SO_2$ emission limit of 0.4 lb/MMBTU based on use of dry sorbent injection (DSI). DEQ considered a lower emission limit since DSI systems have achieved levels as low as 0.2 lb/MMBTU. DEQ rejected a lower limit for two reasons. First, while DSI has been commercially demonstrated, it has never been used on a plant as large as Boardman. As a result, the ability of DSI to achieve a lower limit at Boardman is uncertain. Second, a lower $SO_2$ limit would result in increased particulate emissions from the DSI system itself. If the particulate emissions are high enough, this could trigger additional emission control requirement, which could raise the cost of the DSI system so that it does not meet the cost-effectiveness threshold.

DEQ did not consider any alternatives with closure dates later than 2020. This is because PGE requested that the Department adopt BART requirements for a 2020 closure, indicating that a later closure date is no longer being considered.