Columbia River Gorge Visibility Project
2006 Annual Report

Oregon Department of Environmental Quality
Southwest Clean Air Agency
September 12, 2006

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Presentation Overview:

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I. Gorge Commission Charge to Air Agencies:

- **In May 2000, the Gorge Commission approved an air quality amendment to the National Scenic Area Management Plan:**
  Air quality shall be protected and enhanced, consistent with the purposes of the Scenic Area Act. The States of Oregon and Washington shall: (1) continue to monitor air pollution and visibility levels in the Gorge; (2) conduct an analysis of monitoring and emissions data to identify all sources, both inside and outside the Scenic Area that significantly contribute to air pollution. Based on this analysis, the States shall develop and implement a regional air quality strategy to carry out the purposes of the Scenic Area Act, with the U.S. Forest Service, the Southwest Clean Air Agency and in consultation with affected stakeholders.

- **The Gorge Commission must find that any proposed air quality strategy is consistent with the purposes of the Scenic Area Act before it concurs with a proposed strategy.**

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II. The Technical Work Overview: *Current Status and Meeting the Charge*

- **SWCAA and DEQ ("air agencies") continue to monitor visibility in the Scenic Area**
  - The agencies have used this data to help identify significant emission sources possibly influencing visibility in the Gorge and will continue to evaluate monitoring data for tracking on-going progress.
- **Two Monitoring Studies**
  - **Haze Gradient** (Finalized in March 2006)
  - **Causes of Haze in the Gorge** (Finalized in August 2006)
- **Modeling**
- **Gorge Science Summary Report**

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First Monitoring Study – Haze Gradient Study.

It found:

1) Haziest pattern with winter Downgorge flow (winds from the east) - sources east of Gorge mainly responsible
2) Summer patterns –increased haze as Portland metro area emissions transported through gorge (seen mostly in western-central gorge- much cleaner in eastern Gorge due to dispersion)
3) Light Downgorge- increasing visibility impairment in The Dalles as winds shift from westerly to easterly
4) Winter Downgorge highest visibility impairment at all sites except Steigerwald and Sauvie Island (eastern sites haziest)
5) All sites - Strong Upgorge lowest visibility impairment and large gradient from west to east)
6) Therefore, main summer pattern cleanest, main winter pattern dirtiest
7) Sauvie Island and eastern Gorge sites have greater variation between patterns than other sites

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Second Monitoring Study – Causes of Haze (CoHaGo):

The draft CoHaGo Study was presented to you in March 2006. Comments were solicited and incorporated into the final version, which was released in August 2006. The final conclusions were consistent with the draft and include:

1) Summertime haze – main contributors are organics and sulfate
   a) Organics mainly from burning
   b) Sulfate sources include: oil combustion, paper mills
   c) Portland Metro area contributing significantly in summer
2) Wintertime haze worse than summer - nitrates, sulfates, and organics - sources mainly from the east
   a) Wood burning and sources to the east of the Gorge are the main contributors
   b) Some impact of The Dalles noted under certain conditions
   c) Sulfates and Nitrates are also major contributors to haze (emission inventory sources include coal fired power plant and ammonia from nearby confined animal operations)

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Modeling Study Overview:

The monitoring findings will be further explored in the modeling phase and any conclusions should wait for the results of the final Gorge Summary Science report.

- The key outcome of modeling work will be the “future look” at Gorge visibility conditions in 2018 and the expected visibility trend
- The 2018 future look will likely reveal a benefit to the Gorge from the currently adopted air quality regulations that are being phased-in over the near term.
- These currently adopted strategies are a central part of the overall Gorge air quality strategy and are a significant step in meeting the goal to protect and enhance resources.

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Modeling – "What-If" Scenarios

- The agencies will be performing some modeling of various emission source categories to better explore which ones will continue to have a significant influence on Gorge visibility in 2018, which do not, and to identify potential candidates for further investigation of emission reduction strategies

- The agencies solicited public input on which sources should be evaluated

- Based upon the public input, agency expertise, and technical viability, the agencies have selected the following list of scenarios to model in the short run. Given budget constraints, up to five scenarios may be modeled:

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Modeling – "What-If" Scenarios

1. PGE Boardman, (Outside – East)

2. Ammonia sources, including Three-Mile Canyon Farm, (Outside – East)

3. On-road (cars and trucks) activity from the Portland/Vancouver area, (Outside – West)

4. Major point sources in the Portland/Vancouver area, (Outside – West)

5. Major point sources inside the Gorge. (Inside)

This list is consistent with our commitment to geographic equity as it evaluates sources from both outside (west and east) and inside the Scenic Area.

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Modeling – "What-If" Next Steps

- The agencies recognize the previous list is not comprehensive

- Contingent upon funding and FTE availability, some additional examples of "what-if" scenarios could be modeled. They could include:
    - Open burning emissions inside and outside the Gorge
    - Locomotives in the Gorge
    - Marine/Barge, and mobile sources in the Gorge
    - Woodstoves in/out Gorge
    - Targeted diesel reduction projects
    - Regional emissions east/west of Gorge (OR & WA)
    - Aircraft emissions - PDX
    - Off-shore shipping
    - Sea salt-Marine Impact
    - Increased VMT from a new Casino

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Gorge Science Summary Report

- By early 2007, the agencies will combine results and comments from both the monitoring and modeling work in a Science Summary Report This report will include:
    - A summary of monitoring studies.
    - An assessment of current year conditions and discussion of model performance.
    - A projection of visibility conditions for the year 2018 using 2004 meteorology and projected emission changes from reduction strategies currently required, but not yet implemented, in whole or in part.
    - A discussion of contributing studies, such as Klickitat County's monitoring trends analysis and the USFS' work.
- Public comment will be solicited. The final report will be presented at the August/September 2007 Gorge Commission meeting.

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III. An Air Quality Strategy for the Gorge

The agencies are envisioning two major components that will build upon the outcome of the technical study.

Part 1: 2018 Visibility Protection & Current Strategy Implementation

- In 2007, we will provide a look forward (trend forecast) of expected visibility conditions in 2018
- This will include both existing regional strategies and new emission reduction strategies, such as:
  A. Regional Haze
  B. OR Low Emission Vehicles & WA Clean Cars Program
  C. Federal requirements for low sulfur fuels
- Likely that the 2018 look at future visibility conditions will show improving trends as identified by Klickitat County's Air Quality Trends report

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A. Regional Haze

- Regional Haze is a federal program required by the Clean Air Act to improve visibility in the nation's wilderness areas and national parks (ex. Mt. Hood, Mt. Adams and Crater Lake).

- Oregon and Washington must develop regional haze plans by December of 2007. One of the key plan elements is to address the contribution of older industrial facilities to haze.

- DEQ has begun a process of identifying all industrial sources that could be subject to the Best Available Retrofit Technology (BART) requirements under the federal Regional Haze Rule. WDOE and SWCAA have begun a similar process with EPA.

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A. Regional Haze

- **Under BART, certain older sources (over 250 tons potential to emit, built between 1962 and 1977) must be evaluated to see how much they contribute to haze in Class-I wilderness areas, and if retrofitting with emission controls is feasible and cost effective**

- **PGE has volunteered to go first and analyze the impact of its Boardman Generating Station under the regional haze rule. PGE offered to fast-track the analysis for Boardman, which will be a pilot for all other BART sources in Oregon.**

- **PGE has started collecting information on emission control options, and has said that it expects additional controls to be required in order to reduce haze-related emissions from Boardman.**

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B. OR Low Emission Vehicles and WA Clean Cars

- Beginning with model 2009 vehicles, all new passenger cars and light and medium duty trucks sold in Oregon and Washington will be required to meet stricter vehicle emission standards
- The new emission standards will provide additional emission reduction benefits above and beyond federal standards.
- The new standards will provide an additional 30% reduction (approx) in NOx beyond what would be achieved by federal standards alone. NOx is a key pollutant involved in both visibility degradation and acidic deposition.

Pollutant	Oregon Reduction	Washington Reduction
CO	15%	9%
VOC	12% - 21%	18% – 25%
NOx	30% - 33%	30% - 31%
Toxics	22% - 38%	30% - 43%

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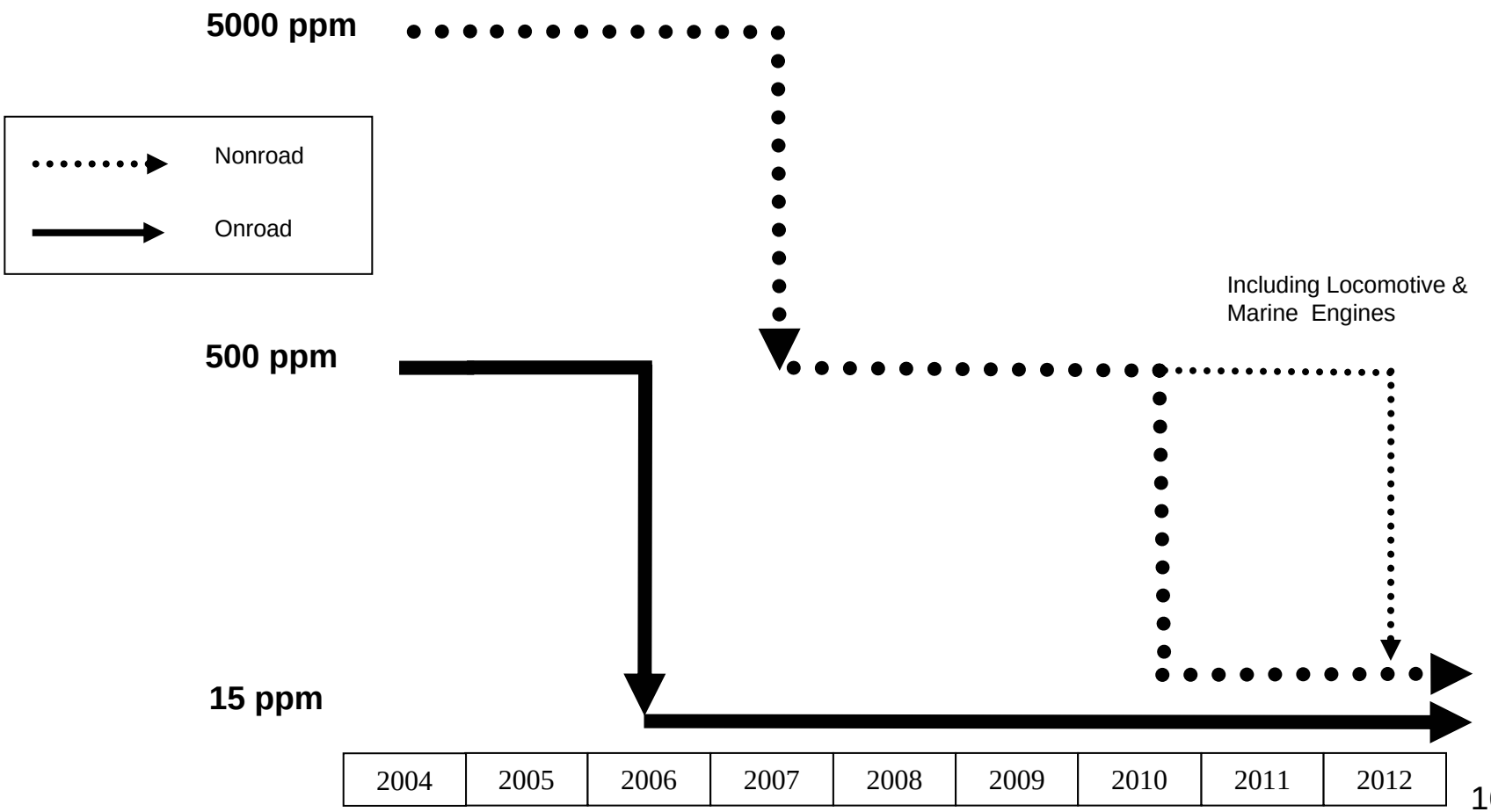
C. Federal Rules Reducing Sulfur in Fuel



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Air Quality Strategy – Part 2:
Additional Future Strategy Development

- The second component to the Gorge strategy looks beyond existing strategies in order to facilitate continued visibility improvement in the Gorge, monitor trends and progress, and address emerging issues

- The air agencies are exploring the development of a strategic collaborative process to:

    - Track and report on-going visibility trends,
    - Track implementation and effectiveness of current emission reduction initiatives,
    - Explore possible additional future emission reduction initiatives, and
    - Address emerging issues with collaboratively-developed strategies.

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Part 2: Continued

- The air agencies believe this strategic process, budget permitting, will be best served by a governor-created, bi-state collaborative group. Alternatively, it could be convened by the Gorge Commission, air agencies, or others.

- The air agencies are currently in discussions with the National Policy Consensus Center (NPCC), to explore the formation of a bi-state group to focus on developing new voluntary emission reduction projects to facilitate continued air quality improvement in the Gorge

- **If** both Oregon and Washington governors, the federal government, tribes, and others agree, this second component of the Gorge strategy could be developed collaboratively by a workgroup of stakeholders as a bi-state "Gorge Solutions Group"

Part 2: Continued

Some possible projects and areas of investigation for a bi-state collaborative group include:

- Native American rock image and ecosystem issues,
- Open burning reduction alternatives (e.g. yard debris composting, or other alternatives to burning),
- Removal of non-certified woodstoves upon sale of home or other programs to accelerate the replacement of old woodstoves,
- Targeted diesel reduction projects benefiting the Gorge (i.e., vehicles, trains, marine vessels, construction equipment),
- Alternative fuels, biodiesel, electric, etc. and
- Other regional emission sources such as fertilizer use, forestry burning, long-range regional transport.

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Part 2: Continued

- WDOE's next budget request to the WA legislature will include funding to restore their federally-required visibility program (which does not necessarily mean a return to the Gorge), and the earliest funding would be available for Gorge work is July 2008
- DEQ's 2007 budget request to the OR legislature will include funding to restore staff to support a Gorge Solutions effort, effective July 2007
- It is very important that WDOE return for any bi-state effort to be successful. SWCAA cannot carry the WA side alone and all air agencies need additional funding to support the proposed effort.
- The air agencies will report to the Gorge Commission on NPCC's scoping progress between now and August 2007, which will include updates on the status of the governors' stances on the convening and timing of a bi-state group.

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IV. A Guiding Benchmark for the Future

- At the conclusion of the study in 2007, the agencies may recommend focusing immediately on collaboratively developing and implementing actual emission reduction projects rather than postpone that work while another long and potentially contentious goal-setting process is implemented.
- The Air Agencies may propose "*improvement*" as the guiding benchmark for the near future.
- This would help protect and enhance the Scenic area *now* by ensuring that local and regional growth does not degrade Gorge visibility and help incremental and ongoing visibility improvement projects get off the ground.
- Next summer, we will have the final study results, a better idea of the monetary and FTE resources available to the agencies, more information on the possible return of WA's Ecology, and a clearer focus on the potential for a collaborative bi-state effort to guide our work.

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V. Additional Items of Interest:

- The Agencies acknowledge and support the Forest Service's statement that "The Forest Service and Agencies will commit to coordination of technical study efforts and sharing of data as necessary to further our knowledge and understanding of air quality issues within the National Scenic Area."

- The Agencies further acknowledge and support the Forest Service's statement that, "Tribal consultation responsibilities will be accomplished through coordination between EPA and the Forest Service (CRGNSA)." If a federally-sponsored consultation process is not in process by the end of 2006, we will independently invite the tribes to consult informally with us, not as a substitute for formal consultation, but as a way to request their input before our 2007 Gorge Commission presentation.

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VI. Public Involvement

- Major themes heard from stakeholders include: “Geographic Fairness,” Potential impact on local economies, Acid deposition potential risk to ecosystems and Native American rock images, Scientific Certainty, and What is the goal for air quality in the Gorge?

- The agencies will present our science reports, along with our initial recommendations, at a public meeting and take public comment.

- We will participate in an EPA/USFS sponsored consultation with each of the tribes, in addition to consulting with other stakeholders as we formulate our recommendation to the Commission later in 2007.

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VII. Next Steps, Timeline and Conclusion

(The following schedule is based upon the assumption that model performance testing and other modeling issues come together in the next month or two.)

December 2006: Plan to release the draft modeling report on the agency web sites for initial public review and comment.

February 2007: Plan to present the results of the modeling study to the Gorge Commission and hold a public meeting to present the work for final comment.

April/May/June 2007: Plan to release the draft integrated Gorge Science Summary report, combining results and comments from both the monitoring and modeling work. The agencies will seek public comment on the summary report.

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June/July/August 2007: Several weeks before the August/September 2007 Commission meeting, the agencies plan to release the final Gorge Science Summary report and their draft recommendation to the Commission. The agencies will then host a public meeting to gather comments regarding the study results and recommended plan for the future.

August/September 2007: At the August/September Commission meeting, the agencies will describe the comments received and make their recommendations. At this meeting, the agencies currently intend to seek concurrence from the Commission with its recommendations.

Project Websites (Reports available)
www.swcleanair.org/reports.html and www.gorgeair.org

Thank You!

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Questions?