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OVERVIEW

What is the purpose of this proposal?

This proposal implements the recommendations of the Grand Canyon Visibility Transport Commission (GCVTC) regarding reduction of sulfur dioxide (SO₂) pollution from large industrial facilities that affects the Grand Canyon and 15 other protected (Class I) parks and wilderness areas on the Colorado Plateau, and also implements a portion of the EPA regional haze regulations.

The Clean Air Act requires the development and implementation of state and tribal plans for addressing the haze that adversely affects the environment and enjoyment of national parks and wilderness areas. In addition, the Act created the GCVTC, which was assigned the task of identifying the sources of the haze that impairs the view of the Grand Canyon and developing recommendations to address human caused pollution that creates the haze. Finally, the Act required EPA to develop regulations that require all states, and tribes if they so choose, to develop programs for reducing pollution that causes haze that affects parks and wilderness areas nationwide. EPA is obligated to develop such programs for tribal lands if a tribe chooses not to develop its own plan.

Is this a comprehensive program to address haze in the Colorado Plateau parks and wilderness areas?

No. Sulfur dioxide from industrial facilities represented only about a third of the visibility impairing pollution measured at the Grand Canyon during the GCVTC's deliberations, from 1991 through 1996. Indian tribes, if they choose, and states are required to submit plans to EPA no later than 2008 that address all sources of haze at all parks and wilderness areas within their territorial boundaries.

Does this program create obligations for any state or tribe?

No. The WRAP will submit this program to EPA on October 2, 2000. If the program is found adequate to implement a portion of the regional haze rule, EPA will seek public comment and amend the rule to include the milestones and the requirements for the trading program.

States and tribes then have the choice whether to write their plans to implement the haze rule using the provisions of the milestones and trading program, or whether to meet the requirements of the regional haze rule through other means.

If the market trading program is optional, what are the other choices?

The regional haze rule applies to the entire United States, and all states must show reasonable progress toward meeting the national visibility goal over the next 60 years. States may implement a cap and trade program to achieve "better than BART" reductions by 2018, or states may directly regulate haze sources through traditional regulatory means and achieve reductions by 2013. BART means Best Available Retrofit Technology.

What about the other protected Class I areas in the region?

When states choosing the market trading option submit their implementation plans in 2003, they will implement all the recommendations of the GCVTC, not just those for large industrial sources emitting sulfur dioxide. The states have the choice to demonstrate at that time that the GCVTC recommendations

meet the rule's reasonable progress test for other Class I areas in the region. Or, the states may declare in their 2003 plans that they will make that demonstration in their plan updates in 2008.

The WRAP is currently undertaking the modeling and other necessary technical work to make those demonstrations.

What happens after 2018?

After 2018, the optional program for GCVTC states does not continue, and GCVTC states meet the same requirements as all other states under the general provisions of the regional haze rule.

What are the components of this proposal?

The Western Regional Air Partnership (WRAP), the successor organization to the GCVTC, has developed this proposal through discussions and negotiations among representatives of interested parties including government, industry and environmental protection organizations. The program that is being proposed establishes regional sulfur dioxide emissions targets, called milestones, for the GCVTC states--Arizona, California, Colorado, Idaho, Nevada, New Mexico, Oregon, Utah, Wyoming--and tribes within the boundaries of this area. If sulfur dioxide emissions are not reduced below these milestones as the result of implementation of other regulatory requirements and voluntary actions on the part of industrial sources, a mandatory emissions trading program will go into place to compel sources across the region to reduce their emissions.

This proposal lays out the milestones and describes how the emissions trading program would be triggered and, if triggered, implemented.

MILESTONES

What are the milestones?

The federal regional haze rule requires that regional sulfur dioxide emission targets be established if states and tribes within the region wish to use an emissions trading program to reduce sulfur dioxide from large industrial sources. The targets decline over time. Implementation of the trading program would be triggered if regional emissions are greater than the milestones. The GCVTC set a target of 13% reduction in 1990 sulfur dioxide emissions by 2000, with a 50-70% reduction by 2040.

The WRAP is proposing the following milestones:

<u>Years</u>	<u>SMELTERS IN</u>		<u>SMELTERS OUT</u>	
	<u>Region- Wide Tons</u>	<u>Reduction From 1990 Emissions</u>	<u>Region- Wide Tons</u>	<u>Reduction From 1990 Emissions</u>
1990	831,000	0% (base year)	831,000	0% (base year)
2000	723,000	13%	723,000	13%
2003-07	720,000	13.4%	682,000	17.9%
2008-12	715,000	14.2%	677,000	18.5%
2013-17	655,000	21.2%	625,000	24.8%
2018	510,000	38.6%	480,000	42.2%

Why are milestones presented with smelters in and smelters out?

Two copper smelters, the BHP Smelter in San Manuel, Arizona, and the Phelps Dodge Hidalgo smelter in southwestern New Mexico, are shut down for economic reasons, but have permits that allow them to start up again. Their emissions of 38,000 tons are included in the milestones for 2003 through 2012. The 2013 through 2018 milestones include 30,000 tons for these smelters. These tonnages have been set aside for exclusive use by smelters as a group that may be used for either the shutdown smelters if they re-open or by other smelters in the region if they plan to process ore that would have gone to the shutdown smelters.

How were the milestones chosen?

WRAP considered a number of factors in setting the milestones:

- 1) 1990 emissions were 831,000 tons and the GCVTC set a goal of 13% reduction by 2000, or 723,000 tons;
- 2) GCVTC set a goal of 50 - 70% reduction of sulfur dioxide by 2040;
- 3) New sources are estimated to total about 36,000 tons from 2000 to 2018;
- 4) The federal regional haze regulations require that the trading program achieve emissions reductions greater than would be achieved by installing retrofit controls on sources with permits for 250 tons per year or more of sulfur dioxide for which construction commenced between 1962 to 1977.
- 5) The regional haze regulations require that the milestones show “steady and continuing emission reductions.”

How certain are these projections?

None of the projections are a certainty because there will be natural fluctuations in actual emissions, as well as some measurement error and bias. In addition, any prediction of the future is affected by changing economic conditions, climatic fluctuations, changes in technology, fuel usage, and so forth. Therefore, the WRAP has tried to develop policy-driven milestones that are well-informed by the available data, while allowing some flexibility to account for future uncertainties.

How does the 2018 milestone compare with the four options presented for comment a few months ago?

The four proposals were 635, 540, 460, and 373 thousands of tons per year by 2018. It is hard to make a direct comparison with the new milestone of 510,000 tons because there have been numerous corrections in the data since the release of the proposals.

What are the current emissions?

1999 emissions are about 652,000 tons. This emission estimate would be about 690,000 tons if two suspended copper smelters had been fully operational.

Why are the early milestones higher than the actual emissions for 1999?

Actual emissions vary from year to year depending upon the weather, current economic conditions and other factors. Future emissions will be affected by population and economic growth in the region. The GCVTC goal for 2000 was a 13% reduction to 723,000 tons, and the GCVTC projected a 50 - 70% reduction by 2040. However, the GCVTC did not make projections for the intervening years because of the uncertainty in predicting exactly when the expected emissions reductions and population growth would

take place. Emissions for 1999 may reflect a variety of conditions: control strategies applied earlier than expected in the GCVTC projections, weather conditions that affect emissions, or economic factors that may not recur in future years. In view of this uncertainty, the WRAP has chosen to leave room for flexibility and planning in the early years.

What about new businesses wanting to locate in the west? Will they have to buy allowances? Won't that interfere with economic development in the west?

There is a set-aside for new businesses locating in states participating in the trading program. The set-aside will be adequate to provide for the projected growth through 2018. Keep in mind that, because of design improvements, new sources will be cleaner than existing sources, and that sources emitting less than 100 tons per year are not affected by the milestones or the trading program.

If the set-aside for new sources is used up, any new sources will be expected to purchase emissions credits before they begin to operate. The price of credits is expected to be in the \$1200 - \$2000 price range, and the cost of purchasing enough credits to operate will not be significant in comparison to the other factors that businesses consider in location decisions, such as nearness to raw materials and markets, cost of labor and taxes.

How will we know if the milestones are exceeded?

Large sources already monitor to assure compliance with the emission limits that are specified in their permits to operate. At the end of each year, emissions from sources will be added together to determine that year's total emissions in the region. That year's emissions will be averaged with the emissions from the previous 2 years and compared to the average of the milestones for the same period to determine whether the milestone was exceeded.

Emissions in the year 2018 will be treated differently to ensure that the WRAP's goals are achieved by that date. Emissions in 2018 will be compared directly with the milestone without averaging.

What happens if the milestones are exceeded?

The trading program is triggered one year following the determination that a milestone is exceeded, and allocations are determined for each source for the fifth year following triggering. All sources must be in compliance by the end of the fifth year.

Most of the reductions are scheduled to occur in the 2013-18 period. What if those reductions do not happen?

If the 2018 milestone is not reached, any source exceeding its 2018 allocation can be penalized. Additionally, participating states in 2013 will assess progress and review plans for the next five years to determine how certain it is that the reductions will occur. If it appears likely that the 2018 milestone will not be reached, then the program can be triggered early.

EMISSIONS TRADING PROGRAM

What's an allowance? What's an allocation?

An allowance is the authorization to emit one ton of sulfur dioxide for one year, under certain conditions. An allocation is the number of allowances a source can use. Each participating state or tribe will allocate allowances in the state implementation plans they prepare in 2003.

When are the allocations made?

The states and tribes will determine allocations in their 2003 state implementation plans. However, allocations do not actually come into existence until the trading program goes into operation, which is one year after it is triggered.

Will each source receive enough allowances to continue operating as it is now?

Not necessarily. If any milestone is exceeded, allowances will be allocated as follows:

First, 20,000 tons will be set aside for tribal use; the tribes will determine how the allocation will be distributed among themselves.

Second, there will be a set-aside for each new source expecting to emit 100 tons per year or more and wishing to move into the region. The precise tonnage has not yet been determined.

Third, there is an allowance of 3,462 tons for the years 2003-18 for participants in California's existing RECLAIM trading program.

Existing sources will receive a "floor" allocation based on a specified control level such as Best Available Control Technology (BACT), Best Available Retrofit Technology (BART), or Lowest Achievable Emission Rate (LAER). In addition, certain sources of renewable energy will be eligible to receive an allocation. The floor allocation for each source will remain constant through 2018, so long as the sum of the floor allocations and the set-asides do not exceed the milestone.

Any remaining tonnage below the milestone will be allocated among the sources as "reducible" tons. This amount will decline over the years as the milestones decline. This means that sources with emissions over their floor allocations will receive part or all of what they need to operate. The sources that do not have sufficient allowances to operate in the compliance year will then have to either install emissions controls, buy allowances from a source that was able to achieve reductions more cheaply, or retire.

Are there incentives to encourage early reductions?

Yes. Before the trading program is triggered, a source reducing its emission below its 2018 allocation can "bank" the early reduction and sell it later if the program is triggered. These are called bonus allocations.

TRIBAL ISSUES

Why are the tribes to receive a special allocation? How will they use it?

Tribal lands are predominantly underdeveloped and thus tribes would not receive allocations under a plan based only on past emissions. Setting aside an allocation for tribal lands will help assure that tribes will be treated equitably under the trading program, and not excluded from the opportunity to develop industry on their lands. The allocation is not a cap on emissions from tribal lands, as tribes may acquire allowances from the general provisions for new and existing sources. The tribal caucus may decide to allocate allowances among the tribes, or it may administer the total set-aside for the benefit of all tribes.

BART

What does “Reasonably Attributable BART” mean and why is it important?

Reasonably Attributable BART means applying Best Available Retrofit Technology controls to one or more sources believed to contribute to visibility impairment in a protected Class I area. In the Clean Air Act amendments of 1977, Congress set control levels for new sources of emissions. Congress also required that sources that began construction between 1962 and 1977 and are found to cause visibility impairment in Class I areas should install retrofit emissions controls. The controls should bring emissions down to the new source levels if feasible, and if it would result in an improvement in visibility in the affected Class I area.

Under this provision, the federal land manager may notify a state that a source is impairing visibility. The state is required to determine how much visibility impairment is attributable to that source, whether retrofit pollution controls are feasible, and, if so, what emissions controls to install.

This provision is important for the emissions trading program because sources do not want to incur expenses to meet the regional haze milestones and then find out later that they must make additional reductions to reduce impairment at a particular protected area. In addition, the regional haze rule requires that a trading program bring about reductions by 2018 that would be better than the reductions achieved by applying BART to all sources subject to that requirement.

If the milestones achieve reductions that are better than BART, does Reasonably Attributable BART go away?

No. Milestones address overall haze, but may still leave localized “hot spots.” Reasonably Attributable BART is available to address those hot spots, should they occur.

What is the federal guidance as to how the reasonably attributable BART and regional haze BART programs should fit together?

EPA has not yet published guidance or rules to determine how BART for regional haze should be determined and how the programs fit together. The other four regional planning organizations similar to WRAP in the rest of the United States are only beginning to organize and won't be ready to address this issue for several years. In the meantime, EPA will use the experience of the WRAP in writing the guidance.

How are BART reductions determined?

The Clean Air Act specifies the factors to be considered when determining the technology to be installed to reduce emissions at sources built between 1962 and 1977. These factors are:

- cost of compliance;
- energy and non-air quality effects of compliance;
- existing pollution control technology used by the source;
- the remaining useful life of the source; and
- the degree of improvement in visibility that may be reasonably anticipated to result from the use of such technology.

The federal land managers have had since 1977 to determine if specific sources are causing impairment--why is this still an issue now?

Good technology for measuring visibility impairment has existed only for the past decade or so, and funding for widespread monitoring has become available only in the past year. Nonetheless, studies have been conducted in high priority areas like the Grand Canyon, resulting in attribution findings for four western coal-fired power plants. To meet the deadlines in the Clean Air Act, considerably more effort will be expended to assess visibility conditions in protected parks and wilderness areas throughout the U.S.

Further, several years of data with varying weather conditions and source production history are needed to determine if a specific source is causing impairment. Federal land managers expect to complete their evaluations as to whether source-specific impairment is occurring by 2006 or so.

Has the reasonably attributable BART program been successful in reducing emissions?

Yes and no. Declarations of impairment by the four western coal-fired power plants did not result in a specific determination of the control level sufficient to satisfy the BART requirement. Instead, the states, the sources, the federal land managers and other interested parties negotiated agreements which have resulted in significant reductions of several pollutants that impair visibility and commitments for additional reductions by 2006.

On the other hand, the negotiations to determine BART have been time-consuming, expensive and inconclusive. Foregoing the costs of such lengthy negotiations is one reason the GCVTC recommended setting a declining regional cap and a trading program rather than addressing emissions from individual sources.

Can the federal land managers simply decide to forego use of BART and let the market trading program achieve the necessary reductions?

The federal land managers cannot voluntarily give up their legal responsibility. A trading program could leave "hot spots" of higher emissions causing impairment at a protected area. The land managers will be looking at Class I areas in which sulfates are not decreasing, and at sources within 100 miles of the Class I area that are achieving less than 85% of their uncontrolled SO₂ emissions. Finally, before certifying impairment, the federal land manager will consult with the state and with the source to determine what SO₂ controls are scheduled to be implemented by 2018.

What role do the states and tribes play in the BART process?

If a federal land manager certifies impairment, states and tribes are required to conduct a detailed analysis that determines how much visibility impairment may be attributable to a specific source or group of sources in relatively close proximity to a protected wilderness area or national park. If an industrial source is found to meet the criteria for reasonable attribution, the state has the responsibility to make a BART determination. The states and tribes may develop uniform guidance to better define these criteria and to address the distinction between reasonably attributable and regional haze visibility impairment. States seek comment on how that might be done.

So a state might require additional controls beyond those made to satisfy the regional haze requirements?

States have three options. After considering the factors listed above, the state could require the source to install controls to reduce emissions. Or, the state could require controls on other sources of sulfur emissions. Finally, before the federal land manager certifies impairment, the state could negotiate with the source and agree to the installation of controls that would achieve the necessary reductions.

ECONOMIC EFFECTS

What is the expected economic impact of the trading program?

WRAP contracted with ICF Consulting, a firm with extensive experience in modeling changes in the market for energy and how those changes affect the rest of the economy. ICF Consulting modeled changes that would occur if BART-level controls were installed on sources subject to the BART requirement (an average of 85% reduction in uncontrolled sulfur dioxide emissions for all sources subject to BART with a current control level of less than 80%) through a traditional command and control process (reductions of 155,000 tons by 2018), and also modeled changes under a stringent milestone-with-trading program.

The results indicate that the direct annual costs of such a command and control program would be about \$200 million in 1997 dollars, and that implementation of an emissions trading program with similar emissions reductions would cost about \$120 million per year. Application of the emissions reductions promoted by some environmental groups, of 220,000 tons, would have an annual cost of \$277 million per year under an emissions trading program. Additional modeling is being conducted to assess the indirect costs by industrial sector and state, and what the impacts would be on gross product and employment. This modeling is expected to be completed within the next week or so, and will be posted on the WRAP Web site, www.wrapair.org, as soon as it is available.

Is the trading program cheaper than a command and control program?

The analysis indicates that a trading program would be 25 - 50% cheaper than a command and control program, for a savings of \$50 - 100 million.

What uncertainties and limitations should be considered in evaluating these numbers?

There are many uncertainties in making economic projections for the next 18 years. One of the reasons the trading program is cheaper is that sources may avoid the capital investment of installing control equipment by shifting to cleaner fuels such as natural gas. While natural gas prices have been relatively stable for

many years, prices have gone up this summer and there is uncertainty as to whether the price will remain high or not. This is one example of the variety of factors which cannot be predicted with certainty. However, the analysis makes use of all information available at this time.

What industry is most affected by the proposal?

Under a command and control scenario, coal-fired power plants are most affected because they have the largest number of sources controlled at less than BART level. Under a cap and trade scenario, most of the reductions come from coal-fired power plants, because the cost per ton of reductions is smallest from that industry.

Other large sources that will be affected by the program include copper smelters, cement kilns, and industrial boilers. The sources most affected by the program are those large industrial sources that are currently not operating at the control level a new source would be expected to meet.

Who pays the cost of making the reductions in emissions?

Under a market trading program, sources that can make reductions at a lower cost-per-ton of reductions will be able, after making reductions, to sell excess allowances to other sources where applying controls would be more expensive. Thus, the cost of reductions is borne by sources--and consumers--other than those using the product of the sources reducing emissions.

How will this program affect my electricity rates? How certain is the projection?

The economic analysis indicates that the cap and trade scenario may add about 2% to the wholesale cost of electricity. Because the cost per ton to reduce emissions at utilities is low compared to costs for other industries, utilities may reduce their emissions and sell credits to other kinds of sources. Thus, electricity consumers will not bear the total cost of the emissions reductions. Uncertainties affecting such decisions include changes in the price of fuels, weather, and cultural and societal choices that may affect demand for electricity.

VISIBILITY EFFECTS

How much visibility improvement would be achieved by the program?

Visibility modeling estimates that visibility improvement from all emissions reduction scenarios, even the most aggressive, would not be noticeable. Sonoma Technologies, the contractor that performed the modeling, examined the average visibility improvement on an annual basis and for the 20% best and worst days, for all 16 of the GCVTC Class I areas, and found that the most aggressive emissions reductions for the protected area with the best improvement would be about half of what would be perceptible to the average person.

Sulfur dioxide from industrial facilities represented only about a third of the visibility impairing pollution measured at the Grand Canyon during the GCVTC's deliberations, from 1991 through 1996. The GCVTC recognized that a comprehensive program addressing many sources and many pollutants is needed to produce perceptible results. The full set of strategies will be implemented in state implementation plans due in 2003. Cumulatively over time all of these measures will result in improvements in visibility that will be perceptible to visitors to these protected areas.

Furthermore, estimates of annual average, or even the average of the 20% best and 20% worst days, may not reflect the visitor experience on any given day.

HOW TO SUBMIT COMMENTS

Who should comment on this proposal?

- Companies that will be affected and consumers of their products;
- Individuals and environmental organizations concerned about protecting the vistas in protected parks and wilderness areas on the Colorado Plateau;
- Individuals responsible for utility costs, as electricity prices may change as a result of this proposal;
- Individuals in the copper, cement, coal, natural gas, railroad and power plant industries, as some jobs will be lost and others created if this proposal is implemented. Preliminary modeling indicates these effects are very small, in the range 0.1 - 0.5%. Additional modeling is being conducted to assess the indirect costs by industrial sector and state, and to determine the impacts on gross product and employment. This modeling is expected to be completed within the next week or so, and will be posted on the WRAP Web site, www.wrapair.org, as soon as it is available.
- Individuals interested in local economic development or providing utility support for low income or institutionalized residents, as they will be directly affected.

How can individuals get more information?

All documents are posted to the WRAP Web site as soon as they are available. Interested persons can sign up to be notified when new material is posted by joining a listserve:

1. Go to the website: http://www.egroups.com/invite/WRAP_MTF_Aughearing
2. Answer all the questions and join the group.
3. Egroups will send a message requesting verification. Individuals will NOT be added to the listserve unless they reply to the message.

Note that you will not receive messages on any other subject, nor will you receive advertising, and your address will not be sold to anyone else. Questions may be directed to Kirsten King, the moderator of the group, who is responsible for postings, and is a member of the WRAP Communications Committee. She can be reached at U. S. Fish and Wildlife Service, phone (303) 969-2153, FAX (303)969-2822, or email Kirsten_King@nps.gov.

Or you can call or write to the project managers. They are:

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How should individuals submit comments?

Comments may be submitted via the Web site, www.wrapair.org, or they may be mailed to the addresses above.