

## **IMPROVE Steering Committee Meeting Summary**

### **November 14-16, 1990**

A meeting of the IMPROVE Steering Committee was held in Research Triangle Park, NC on November 14-16, 1990. Attached is a list of those in attendance. These included several representatives of the multi-state air pollution organizations. The meeting was also well attended by EPA staff due in part to their hosting of the meeting at the Air and Energy Engineering Research Laboratory training center. The objectives of the meeting included:

1. to seek steering committee approval for an expansion of the committee to include state representatives,
2. to seek steering committee approval to accept responsibility for 10 additional long-term monitoring sites in the Eastern US,
3. to be briefed by NPS and their contractors responsible for IMPROVE monitoring efforts on its status,
4. to begin the process of making IMPROVE data available to the AIRS database,
5. to be briefed on the status of the development of a non-urban air quality and effects trends monitoring program.

The meeting topics followed the agenda (attached) though less time was required allowing adjournment at the end of the second day (12/15/90). After a round of self-introductions by all the participants, William Laxton expressed EPA's interests and desires concerning the IMPROVE Program. EPA supports the existing program and wants it to continue. EPA's resource contribution to the IMPROVE Program (about 30% - 40% of the total) is from the 105 state air grants program. Because of this, several states and EPA are interested promoting greater state involvement in the program. This was the rationale for proposing to invite state participation on the IMPROVE Technical Steering Committee.

EPA is also interested in providing additional long-term visibility monitoring for the eastern US in order to track the changes resulting from sulfur dioxide emission changes. The plan to accomplish this involves establishment of sites using IMPROVE look-alike technology and procedures. State air grant resources, beyond those already provided for IMPROVE, will be used to allow additional Class I area monitoring in the east. This will augment visibility monitoring outside of Class I areas by a long-term acid deposition effects research monitoring program presently being planned by EPA's Office of Research and Development. EPA proposed that the IMPROVE Steering Committee accept the responsibility to deploy and operate 10 additional long-term monitoring sites at Class I areas in the east.

A broad ranging discussion concerning state interests in visibility protection issues was led by representatives of the three multi-state air pollution organizations (Rich Poirot – NorthEastern States for Coordinated Air Use Management; Tony Van Curen – WEstern STates Air Resources; and Dan Ely – STate Air Pollution Agencies). In general, states with Class I areas see the IMPROVE Program as an efficient use of monitoring resources. States do not share equally in the benefits of the program (i.e., states with Class I areas have from zero to two sites), nor in their interests concerning visibility protection. There was a lot of interest by states

concerning how the IMPROVE Program would interact with an expanded visibility research program and with the multistate regional haze transport commissions that are anticipated as a result of the visibility provisions of the 190 Clean Air Act Amendments. States have not seen the IMPROVE data reported on in a manner that would be useful to them. These and other topics were the basis of a fruitful discussion which is expected to lead to a greater responsiveness of IMPROVE to state needs.

The Federal Land Managers (FLM) representatives presented their visibility concerns during a discussion that followed that lead by the states. Though each of the FLMs have an interest and responsibility concerning the protection of visibility in Class I areas, their approaches have been somewhat different. The Forest Service has a disperses program, with individual regions and forests having considerable latitude in how they deal with visibility protection. A number of regions have deployed camera monitoring programs to track visibility in wilderness areas. They will be having a national visibility workshop in February to try to develop uniform policies. The National Park Service program is centralized to a much greater extent. They operate nearly 20 full IMPROVE look-alike sites in addition to managing the IMPROVE Program sites. In addition they have conducted several large special studies to better identify the causes of impairment in their parks. The Fish and Wildlife Service (not represented at this meeting) operates in close coordination with the National Park Service. The Bureau of Land Management has no visibility protected areas, however, often they are the agency which is responsible for developing environmental assessments of proposed sources that might impact visibility in protected areas. Their interest is primarily in close coordination.

A vote by the IMPROVE Steering Committee on the proposals for including state representation on the IMPROVE Steering Committee and taking responsibility for the deployment and operation of the new eastern Class I area monitoring sites followed a brief discussion of the consequences. The result was a unanimous vote to approve both proposals.

The meeting continued with a briefing by Bill Malm on the Pacific Northwest Regional Visibility Experiment Using Natural Tracers (PREVENT) Study. The primary purpose of this study is to investigate the sources of summertime visibility impairment in parks in Washington State. Monitoring was conducted at three primary site and 30 secondary sites. The field monitoring portion of the study was completed late last summer and data processing and analysis is underway. A copy of the briefing package material is available upon request.

Presentations were made on the status of the monitoring program by John Molenar of Air Resource Specialists, and Tom Cahill of the University of California at Davis, both NPS contractors. These presentations covered the monitoring, quality control, and data processing procedures employed in the long-term network. As this information is available elsewhere (e.g., IMPROVE Progress Report, EPA-450/4-90-008, May 1990), it will not be repeated here. A target schedule for the availability of quarterly data is six months' after the end of the quarter.

During lunch a side meeting was conducted to consider whether another type of particle monitoring system and analysis methodology might be advantageous to replace or supplement the existing approach. The suggestion was made at a meeting the week before the IMPROVE meeting by Bob Stevens that a sampler developed with EPA support might provide more information at a lower overall cost and that the PIXE analysis was inferior to high resolution XRF analysis. The consensus from the lunch-time discussions was that PIXE performed adequately for routine use and that the new sampler would have to be tested for a period of time

at one of the IMPROVE monitoring locations before any decision could be made concerning its future use in this program.

Under the topic of IMPROVE mid-course corrections, the meeting participants discussed several subjects. The advantages of having an external quality assurance audit program was agreed on. EPA planners of the air quality trends monitoring program (e.g., Dale Pahl) may be willing to support a joint quality assurance effort. The trends monitoring program would benefit from an overall audit effort by providing independent assurance of the quality and comparability of the data from IMPROVE which is being relied on to augment their data. Some of the steering committee participants asked whether there was a role for the IMPROVE in the Mohave tracer study which was a line item in the current EPA budget. The EPA participants offered to inquire concerning the possibility of IMPROVE involvement.

Also discussed was the desirability of augmenting the existing monitoring program by measurement of additional parameters such as ammonium ion, SO<sub>2</sub>, particle size distribution, etc. Prior to any decision to routinely monitor new parameters, evaluation of the required monitoring methodologies at one site would be necessary. Some of the participants suggested that the IMPROVE quality assurance procedures and data should be organized into a publication. It was also suggested that we again circulate a Memorandum of Understanding to more formally institutionalize the IMPROVE Program and its direction by a technical steering committee. Several years ago a draft MOU for that purpose was prepared and circulated, but lack of interest or follow-through resulted in the effort being abandoned.

The discussion of deployment priorities and schedules for the new eastern IMPROVE sites resulted in a decision to put out the particle sampling equipment in spring and summer of 1991 to be followed later by the more difficult to deploy optical monitoring equipment.

Bruce Polkowsky briefed the meeting participants on the EPA non-urban air quality tracking program. A large planning workgroup, headed by Dale Pahl and including several on the IMPROVE Steering Committee, met the previous week to begin the planning process. This tracking effort is a direct response to the research title of the 1990 Amendments to the Clean Air Act. Visibility is one of a large list of parameters to be tracked. To conserve resources, this program will utilize data from the IMPROVE Program (and other programs for non-visibility parameters) where it can and deploy its own sites to extend geographic coverage. The first major milestone for the program is to have monitoring consultant contract(s) in place by October 1991.

Bruce Polkowsky also presented information concerning the visibility provisions of the Clean Air Act Amendments. He outlined the research and reporting provisions and discussed the requirement for Visibility Transport Commissions and Regions.

The final topic of discussion was the archiving of the IMPROVE data in the EPA AIRS database. Jacob Summers, OAQPS, made a presentation on the AIRS system, including a description of the subsystems, records and information, data input and retrieval processes, and user support. The Steering Committee made a commitment to submit IMPROVE data to the AIRS system. Contact between technical personnel dealing with IMPROVE data and AIRS staff are to begin the process of data transfer early in 1991.

A great concern expressed when it was discovered that AIRS had no provisions to permit minimum detection limits and precision to be reported with each measurement. This is a problem for aerosol composition measurements near detection limits and or where the samples contain interfering materials which cause the detection limits to change on a sample by sample basis. The steering committee felt that the data should not be degraded to accommodate present storage protocols. In a meeting with William Hunt after the IMPROVE meeting, it was agreed that the AIRS data system would be altered to include the additional data quality information.

In another issue concerning data, Bill Malm indicated that the transmissometer data would be held until a satisfactory automated approach to identify precipitation and clouds or fog in the site path was developed and evaluated. An approach to do this has been developed and is being tested. Preliminary results are encouraging, but additional testing is necessary. The approach will be used to specify a comment code for data which is influenced by meteorological visibility impairment. Bill will keep the Steering Committee informed of progress on this issue.

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## IMPROVE Steering Committee Meeting Agenda

Dates: November 14 – 16, 1990

Location: Air and Energy Engineering Research Laboratory training center, Research Triangle Park, NC

### November 14

9:00 am	Roundtable self-introductions	Marc Pitchford
9:10 am	Welcome. Background on EPA's interest and plans for an Eastern Visibility Monitoring Program	William Laxton
9:45 am	Eastern states visibility interests	Rich Poirot
10:15 am	Break	
10:30 am	Western states visibility interests	Tony Van Curen
11:00 am	STAPPA's visibility interests	STAPPA staff?
11:30 am	Forest service visibility interests	Jim Byrnes
12:00 pm	Lunch	
1:30 pm	Fish and wildlife service visibility interests	Bud Rolofson
2:00 pm	Bureau of land management visibility interests	Scott Archer
2:30 pm	National park service visibility interests	Mark Scruggs
3:00 pm	Break	
3:15 pm	Proposal to modify the IMPROVE Steering Committee to incorporate state representatives and manage the eastern sites. Discussion and resolution.	Marc Pitchford
5:00 pm	Adjourn	

### November 15

	Status of IMPROVE routine monitoring and data	
9:00 am	I. Introduction	Bill Malm
9:15 am	II. Aerosol	Tom Cahill
10:15 am	Break	

November 15 (continued)

10:30 am	III. Optical and other measurements	John Molenaar
11:30 am	Special studies (WHITEX & PREVENT)	Bill Malm
12:00 pm	Lunch	
1:30 pm	IMPROVE mid-course corrections, new special studies? An open discussion	Marc Pitchford
3:00 pm	Break	
3:15 pm	Eastern IMPROVE sites deployment and operations: priorities and schedule	Neil Berg
3:45 pm	Plan for Title V (acid rain) trends monitoring	Steve Bromberg
4:30 pm	Possible regional haze regulations	Bruce Polkowsky
5:15 pm	Adjourn	

November 16

9:00 am	EPA's AIRS national database	AIRS staff?
10:00 am	Approach to archiving IMPROVE data in AIRS	IMPROVE staff?
10:30 am	Break	
10:45 am	Data summarization, interpretation, and reports	Bill Malm
12:00 pm	Adjourn	

**IMPROVE Steering Committee Meeting Participants**  
**November 14-16, 1990**

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