DRAFT (September 29, 2005)
Approaches for Meeting Reasonable Progress for Visibility at Northern Class I Areas

The purpose of this paper is to review the policy requirements of setting reasonable progress goals and to propose a technical approach for addressing those requirements. This approach focuses on reasonable progress for regional haze in the four Class I areas in northern Michigan (Isle Royale National Park and Seney Wilderness Area) and northern Minnesota (Boundary Waters Canoe Area and Voyageurs National Park). They may or may not prove useful for other class I areas or groups of class I areas.

Any reasonable goal adopted by a state for its class I area(s) must consider the four statutory factors:
- Costs of compliance
- Time necessary for compliance
- Energy and non-air quality environmental impacts of compliance, and
- Remaining useful life of any potentially affected sources.

In addition, the State must compare the selected reasonable progress goal for improving the 20% worst visibility days with the uniform rate of improvement in visibility improvement which would result in "natural conditions" by 2064. If the State chooses a reasonable progress goal for 2018 that would result in less improvement than the uniform rate of progress to 2064, the State must tell the public when natural conditions would be met at its chosen rate of progress.

Technical Approach
1. **Identify and Prioritize Sources:** Determine existing visibility conditions, examine which sources and geographic regions are contributing to worst and best visibility days, and identify the major anthropogenic sources/sectors contributing to worst visibility days (i.e., priority sources). For this cluster of class I areas, regional air quality models and monitoring receptor analyses can help determine the anthropogenic contributors to visibility impairment and their relative importance (e.g., based on emissions, percent contribution to impairment, or some combination of these and other factors).

2. **Identify Control Options for Priority Sources:** Develop control options for reducing the emissions from the priority sources, including existing and expected control programs (e.g., CAIR, BART, and nonattainment area controls) and other possible control programs. In identifying candidate control strategies, states may wish to consider achieving a uniform emission reduction for all states which contribute above some threshold level, or achieving emission reductions in proportion to contribution.

3. **Assess Effect of Existing Programs for Priority Sources:** Assess the expected emission reduction from existing control programs for the priority sources, especially for the important visibility impairing pollutants (e.g., SO_2 and NO_x).

4. **Evaluate Control Options for Priority Sources:** Using the four statutory factors, evaluate the control options (identified in step 2) for all priority sources and determine which measures may be reasonable.

   (Alternatively, this step could be limited to those priority sources not affected by existing control programs or those priority sources who are not expected to reduce their emissions.)

5. **Compare Control Strategies with Uniform Rate of Progress:** Compute the appropriate visibility metrics for the existing/expected controls and the "reasonable" controls determined in Step 4 for the Class I areas. Compare the expected improvement in visibility with the 60-year glide-path to natural conditions. If "above" the line, then the state must calculate the year in which natural conditions would be met if the reasonable progress rate expected between 2000-2004 and 2018 is held constant. That calculation would be part of the public information during SIP development and submittal.