

Developing an Alternative to EPA Method 9

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The Current Method: EPA Method 9

- It has been a very important air compliance tool.
- The method has reduced opacity, reduced PM, and improved air quality.
- It has been tested in the courts and is a “tried and true” method.
- Method 9 is incorporated in many rules.
- States want Method 9 to remain in place as a tool in the air compliance “tool box.”

Some Limitations/Problems with Method 9

- Requires frequent training (field certifications every 6 months)
- Relies on the human eye as its sensor.
- Does not provide good post-observation data/evidence.
- Younger and tech-savvy staff are disappointed we still rely on a visual method....

Compliance Inspectors Calibrating their Eyes...



Photograph courtesy of Eastern Technical Associates, Inc.

Some New Opacity Measurement Methods Hold Promise

- Digital camera-based methods
 - Benefits:
 - Very similar to Method 9 (easily learned)
 - Uses a camera as its sensor (not the human eye)
 - Provides good post observation data for analysis and review
 - Provides better evidence (a picture is worth...)
 - Does not require re-certification training every 6 months
 - Is an ASTM standard

Some New Opacity Measurement Techniques Hold Promise

- Digital camera-based methods
 - Disadvantages:
 - Some states have been unable to run commercially available DOCS II software
 - Software is poorly supported
 - Software doesn't provide enough user controls or raw data for user evaluation
 - ASTM method cannot be used on stacks >7 feet in inside diameter
 - Not a formal EPA Method
 - Bottom line: DOCS method is not fully developed

Potential Cost Savings of an Alternate Method

- Virginia spends about \$9,000 per year certifying inspectors to perform Method 9
- The annual cost of certifying inspectors from state and local agencies nationwide is being estimated
- The Department of Defense estimated large savings (\$15.3 million annually!) if DOD could adopt a system like DOCS
- There are potential savings for stack testers and the regulated community

Some Potential Partners in Developing an Alternative Method

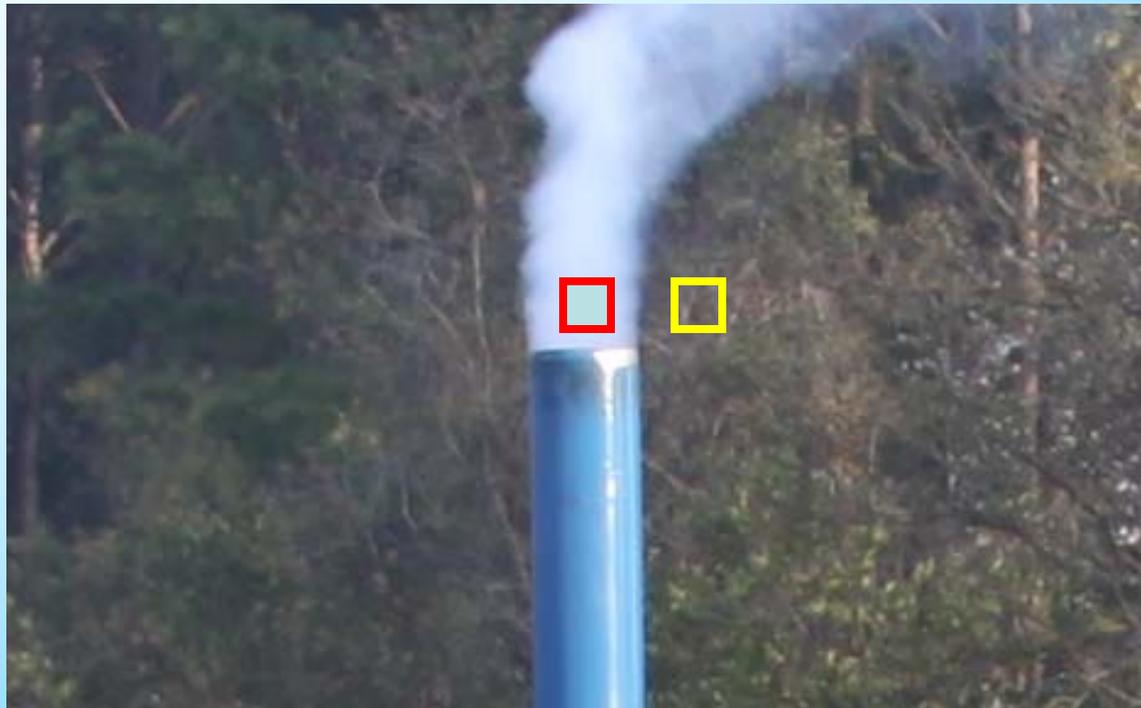
- EPA
- State and local agencies
- DOD
- Source Evaluation Society
- NASA
- Others?

Let's stop doing this...



Photograph courtesy of Eastern Technical Associates, Inc.

...and start doing computer analysis
at our desks....



Photograph courtesy of Eastern Technical Associates, Inc.

References

- EPA Method 9
<http://www.epa.gov/ttn/emc/promgate.html>
- Digital Opacity Compliance System (DOCS)
<http://www.serdp.org/> (Search for: “An Alternative to EPA Method 9”)
- DOCS II by Virtual Technology LLC
<http://www.virtuallc.com/virtuallc/index.asp>
- ASTM’s Digital Camera Opacity Technique (DCOT)
<http://www.astm.org/Standards/D7520.htm>

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