

Environmental Appeals Board, NGS NSR Permit T-0004-NN, PSD AZ 08-01A
Petition: "Use EPA Alternative Method 082 and/or" EPA Method 9 for the measurement of opacity

Case No.

Appeal against NGS NSR T-0004-NN

May 23, 2016

US EPA Environmental Appeals Board

Shawn Dolan, and General Public
Plaintiff(s),

vs.

EPA Region 9

DEFENDANT(S)

Plaintiffs, request to include US EPA Alternative Method 082 (ALT 082) as means to monitor Opacity of all sources listed in the NSR filing.

Electronic filed, May 23, 2016

Conforms to word and size limits.

Environmental Appeals Board, NGS NSR Permit T-0004-NN, PSD AZ 08-01A
Petition: "Use EPA Alternative Method 082 and/or" EPA Method 9 for the measurement of opacity

EPA Notice being brought to the EAB.

Issued by: EPA Region 9, Air Quality
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Noticed: By EPA Region 9, April 25, 2016, via email to commenters
From: Maurin, Lawrence [mailto:Maurin.Lawrence@epa.gov]
Sent: Monday, April 25, 2016 8:50 AM
To: R9AirPermits
Subject: US EPA Notice of Final Decision: Navajo Generating Station
* * * Public Notice * * *

Navajo Generating Station

Announcement of Final Permit Decision to Issue a Clean Air Act Minor NSR Permit in Indian Country

Tribal Minor NSR Permit: T-0004-NN

The United States Environmental Protection Agency, Region 9 (EPA) is issuing its final decision to grant conditional approval, in accordance with the Clean Air Act, for the addition of a refined coal treatment system (RCTS) at Navajo Generating Station (NGS). EPA is issuing a Minor New Source Review (NSR) Permit in Indian Country that grants conditional approval to Salt River Agricultural Improvement and Power District (SRP), in accordance with the Minor NSR regulations for Indian Country (40 CFR 49.151-161). The permit authorizes SRP to construct and operate the RCTS, including ancillary equipment, in order to treat coal with cement kiln dust and calcium bromide, which will result in some additional reduction of oxides of nitrogen (NO_x) and mercury emissions, respectively. This minor NSR permit will be incorporated by Navajo Nation EPA into Navajo Generating Station's title V/Federal Operating Permit as an administrative amendment pursuant to 40 CFR 71.7(d)(i)(v). The address for SRP is 1521 North Project Drive, Tempe, Arizona, 85281. The proposed location for the NGS RCTS Project is at the existing NGS located approximately 5 miles east of Page, Arizona on Arizona State Route 98.

During the public comment period, EPA received written comments regarding its proposed permit action to approve the NGS RCTS Project. EPA has carefully reviewed each of the written comments submitted and, after consideration of the expressed views of all commenters, the pertinent Federal statutes and regulations, and additional material relevant to the application and contained in our Administrative Record, EPA has made a decision, in accordance with 40 CFR 49.151-161, to issue a final Tribal Minor NSR permit to SRP.

Key portions of the Administrative Record for this decision (including the final permit, all public comments, EPA's responses to the public comments, and additional supporting information) are

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available through a link at our website, <http://www2.epa.gov/caa-permitting/tribal-nsr-permits-region-9>, or at www.regulations.gov (search for: EPA-R09-OAR-2016-0026).

Copies of the final permit and EPA's responses to the public comments, and the Administrative Record for this action, may also be viewed in person, Monday through Friday from 9:00 AM to 4:00 PM, at the EPA Region 9 address below. Due to building security procedures, please call Larry Maurin at (415) 972-3943 to arrange a visit at least 48 hours in advance. Hard copies of the final permit and EPA's responses to the public comments are available upon request at the following:

E-mail: R9airpermits@epa.gov

U.S. Mail: Larry Maurin (AIR-3)
U.S. EPA Region 9
75 Hawthorne Street
San Francisco, CA 94105-3901

Phone: (415) 972-3943

The contact information above may also be used to request copies of other portions of the administrative record for this action. Larry Maurin can also be reached through EPA Region 9's toll-free general information line at (866) 372-9378.

Within 30 days after the service of notice announcing this final permit decision, any person who filed comments on the proposed permit for the NGS RCTS Project may petition EPA's Environmental Appeals Board (EAB) to review any condition of the final permit. Persons who did not file comments or participate in the public hearings may petition for administrative review only to the extent of changes from the proposed to the final permit decision. The petition must include a statement of the reason(s) for requesting review by the EAB, including a demonstration that any issues being raised were raised during the public comment period to the extent required by the regulations at 40 CFR 49.159(d) and when appropriate, a showing that the conditions in question are based on 1) a finding of fact or conclusion of law which is erroneous, or 2) an exercise of discretion or an important policy consideration which the EAB should, in its discretion, review. Please see 40 CFR 49.159(d) and visit <http://www.epa.gov/eab/> for important information regarding the procedures for appeal of a Minor NSR Permit.

EPA's permit for the NGS RCTS Project shall become effective 30 days after the service of notice of the final permit decision, unless a petition for review is properly and timely filed with the EAB per 40 CFR 49.159(d). In the event that a petition for review is filed with the EAB, construction of the facility is not authorized under this permit until resolution of the EAB petition(s).

Please bring the foregoing notice to the attention of all persons who would be interested in this matter.

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- 1) EPA 340/1-92-004 Dec 1993 Visible Emissions Field Manual [EPA Visible Emission Method 9 and 22](#) page 4 "Method 22" and Page 7 Table 1 comparison of methods.
- 2) ASTM D7520-16, <http://www.astm.org/Standards/D7520.htm>
- 3) US EPA Alternative Method 082, <https://www3.epa.gov/ttn/emc/approalt.html>
- 4) 301 ComparisonD7520toEPAMethod9,
- 5) PUBLIC LAW 104-113 NATIONAL TECHNOLOGY TRANSFER AND ADVANCEMENT ACT OF 1995, Section 12, Standards and Conformity <http://www.nist.gov/standardsgov/nttaa-act.cfm>
- 6) The National Institute of Standards and Technology Act (15 U.S.C. 271 et seq.) (attached)
- 7) US EPA Next Generation Compliance: Strategic Plan 2014 – 2017, Page 1, Goals (attached) <https://www.epa.gov/compliance/next-generation-compliance-strategic-plan-2014-2017>
- 8) [40 CFR 52.21](#) - Prevention of significant deterioration of air quality. Section 12, Best available control technology, Section 19, Innovative control technology
- 9) 40 CFR 49.151-161 Minor NSR Permit in Indian Country Pursuant to <https://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2003-0075-0001>

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- 3) Excerpts from Title 40: Protection of Environment, PART 49—INDIAN COUNTRY: AIR QUALITY PLANNING AND MANAGEMENT, Subpart C—General Federal Implementation Plan Provisions, Subpart 124 Rule for limiting visible emissions
- 4) Excerpts 40 CFR 52.21 - Prevention of significant deterioration of air quality. Section 12, Best available control technology, Section 19, Innovative control technology
- 5) Comment on EPA-R09-OAR-2016-0026-0001
- 6) Recommended NGS NSR T-0004-NN changes

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1) Introduction

The EPA Region 9 has been working with the Salt River Project and the Navajo Nation to facilitate a permit for the creation of a new source on the Navajo Generating Station in Northern Arizona, located adjacent to the Glenn Canyon National Recreation Area, the Grand Canyon National Park, the Rainbow Bridge National Park and multiple other National Parks and Wilderness Areas subject to class 1 restoration status under the Regional Haze rules, of the Clean Air Act. The Petitioner is a long time resident of Arizona, a proponent of the coal fired utility industry, an avid outdoors man and frequent user of the National Park System. The Petitioner, has complete respect for the Navajo Nation and a long history in Northern Arizona and the four corners region. Some of the pictures used to prove a point in this brief were captured from the Petitioner's boat on Lake Powell in the Glenn Canyon National Recreation area.

The Petitioner understands the desire to minimize effort and stay within the boundaries of the norm by the Federal Government. However, the petitioner is also aware of the eminence burden imposed by the use of legacy monitoring methods, and the lack of forward progress achieved, by their limitations, simply in the name of "that's the way we have always done it".

Given the global war with climate change, the daunting cost of mitigation and adaptation, it only seems logical that we as a nation, we would take every opportunity to move away from the "old way" and into the "new way" particularly when there is demonstrated failure of the old way and success of the new. The idea that we should continue with legacy out dated methods simply because it's the way we have done it, does not pass the reasonable logic test. Specifically when applied to "New Source Review", which by definition and requirement, invites new approaches to pollution mitigation and monitoring ingenuity.

The crux of the argument here-in is the "as permitted" EPA Method 9 is an adequate means to monitor Opacity..... (Effectively making it cost prohibitive and unlawful for the permittee to use more advanced methods) The Petitioners request the NSR permit require the use of the Digital Camera Opacity Technique. Petitioner argues that NGS has operated above permitted opacity limits, in the past while required to use Method 9 for monitoring opacity. Given that unreported opacity exceedances occurred while Method 9 was being used to monitor opacity, the method is clearly not adequate for the monitoring of opacity, e.g. The purpose of monitoring is to identify, repair, restore, conditions that cause exceedances. Thus if exceedances where not identified, the condition could not be repaired, restored, etc. at a minimum the petitioner desires the permit be amended to allow the use of ether the legacy human eye approach (EPA Method 9) and/or the new Digital Camera Opacity Technique (EPA Alternative Method 082 (ALT 082)).

2) Findings of Facts:

During the course of the NSR permitting action, comments were submitted to the EPA Region 9 pointing out that new technology and standards exist that are supported by the EPA office of Air Quality Policy and Standards (OAQPS), the Office of Enforcement and Compliance Assurance

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(OECA) and Region 5 office of Air Enforcement, which essentially retires the Legacy EPA Method 9, (1972 method) and replaces it with US EPA Alternative Method 082 (ALT 082) and its Industry Consensus partner standard ASTM D7520, originally released in 2009, updated 2013, and again in 2016. In accordance with The National Institute of Standards and Technology Act (15 U.S.C. 271 et seq.), requires "emphasizing where possible the use of standards developed by private, consensus organizations", thus legally requiring the use of Industry consensus (ASTM D7520) standards over standards developed by the Federal Government (EPA Method 9).

The facts are simple a more advanced Industry Consensus Standard exists for the measurement of Opacity, (ASTM D7520), than the Federal Government developed method (EPA Method 9). Further, to facilitate the use of the industry consensus standard (ASTM D7520) the EPA OAQPS has promulgated, Alternative Method 082 (ALT 082), (Feb 15, 2012 publication). Therefore, EPA Alternative Method 082 is a "Best" (more repeatable, reproducible and auditable method) control/monitor than EPA Method 9. EPA Alternative Method (ALT 082) maintains the same tolerances as legacy Method 9, thus ALT 082 does not increase stringency of monitoring in terms of measured values. However, ALT 082 does make Regulations more effective and reduce lifecycle cost, advances monitoring retention, enables electronic reporting, expands transparency, and innovates enforcement partnerships.

The EPA's response to the Petitioners comment to require the use of EPA Alternative Method 08, speaks to the adequacy of EPA Method 9 for the monitoring of opacity at NGS. The EPA claims the use of Method 9 in the "other" areas of NGS further justifies the use of Method 9 to monitor opacity under the NSR. EPA Asserts, a new requirement to add Method 22 checks to trigger Method 9 opacity determinations and a lower opacity limit will "better" the situation for the New Source.



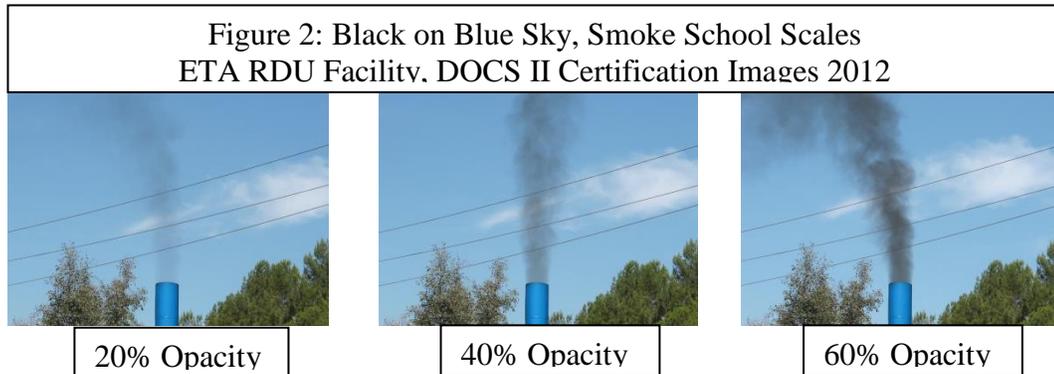
Figure 1: Coal Handling Dust

Petitioner dis-agrees citing instances where opacity exceedances have been witnessed like this image of the "coal dust cloud" generated from the process NGS uses for coal loading and handling operations. Note: this image is a long ways away from the source, imagine the opacity at the source on the site. The petitioner is all too familiar with coal dust clouds like the one pictured emanating from NGS. The NSR covers the creation of a new

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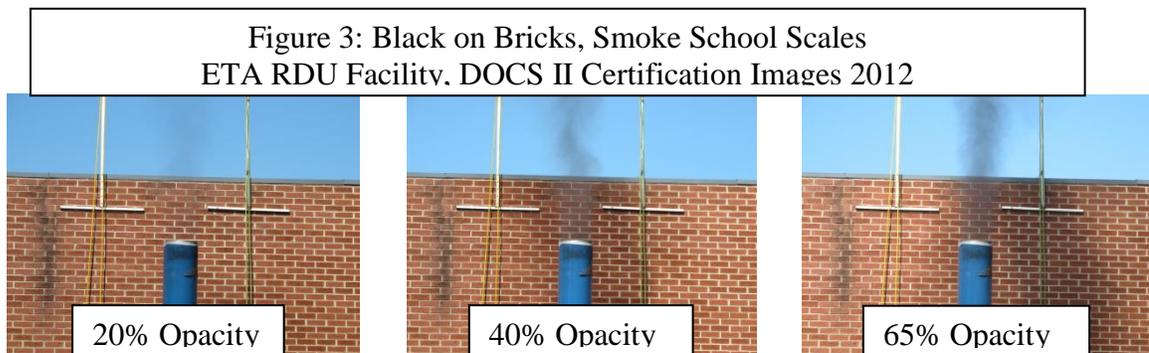
Refined Coal Treatment System (RCTS) which adds calcium bromide and cement kiln dust to the coal prior to being pulverized for combustion in Units 1, 2, and 3. All parties are in agreement that this RCTS will increase the type of dust emissions, exemplified in Figure 1.

Petitioner understands that the coal handling process and operation in use are covered under PSD Permit AZ 08-01 issued on November 20, 2008 which has a 20% opacity limit on the coal dust exemplified in Figure 1. For example comparison purpose, compare the Figure 2 depicting the opacity scale for black smoke 20, 40, 60 percent opacity.



Comparing Figure 1 with the scale of Figure 2, is the Method 9 monitoring that was and is occurring at NGS providing a means to document opacity greater than 20%?

Adding the uncertainty of Method 9 opacity observations is the background used to determine the opacity of the plume. Figure 3 depicts, black smoke opacity at 20, 40, 65 percent varying the background to exemplify the uncertainty this variation places on the human observer. Human smoke readers are required to pass a smoke test every 6 months, which consists of 25 white and 25 black plumes. The "Smoke School" is rarely performed on site, against the same background that will be used during operations. The closest regularly scheduled smoke school to NGS is in Flagstaff Arizona at approximately 8000 feet above sea level in the pine forest of Arizona, versus NGS at approximately 4500 feet above sea level in the red rock of Arizona.



Comparatively, ASTM D7520 and EPA ALT 082, requires DCOT's to pass 6 smoke schools with various backgrounds. The images used in Figure 2 and Figure 3 are part of the Virtual Technology LLC, Digital Opacity Compliance System Second Generation, Analysis Certification

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Training. The imagery is from Eastern Technical Associates (ETA) Smoke School Facility in Raleigh, North Carolina and is used for Analysis certification training for the Digital Opacity Compliance System Second Generation (DOCS II). The first ASTM D7520 and EPA Alternative Method 082 certified Digital Camera Opacity Technique.

The coal handling is one process area currently monitored by Method 9 and it appears Method 9 is not adequate; the PSD permit was issued in 2008. However, other areas exist as well. Figure 4, depicts the wet scrubbed stacks of NGS, and the confusion that can occur as to where the



Figure 4: Primary and Secondary Plume Opacity Measurement

plume should be read in accordance with EPA Method 9. Per EPA Method 9 the "opacity is to be determined at the point of highest apparent opacity that does not contain water vapor". Obviously, the water injected pollution control equipment on the NGS stacks creates a difficult situation to determine the point of highest

apparent opacity that does not contain water vapor.

Obviously, the opacity differs between the primary plume, directly above the water vapor



Figure 5: Wet Scrubbed Stack Plumes NGS Facility, 2014

evaporation point of flue gas at the stack exit, and the secondary plume, which forms as the flue gas cools, miles down wind. In the case of this 2014 image the downwind plume is moving into the eastern boundary of the Grand Canyon National Park. Note Figure 4 image is not in compliance with sun angle as required by Method 9 and ALT 082, for opacity determination. However, the image is compliant with EPA Method 22, which does not

require a specific sun position. Figure 5 depicts the NGS Stacks and is in sun compliance with both Methods. Note the break in the plume at the evaporation point previously described. Figure 6 depicts, the effects of background on apparent opacity to the human observer performing Method 9 observations. Important to note that Method 9 and ALT 082 have limitations on the slant angle of view. In order to maintain complaint slant angle, (less than 18 degrees) in studies ⁴, both the Human observer and the DCOT operator had to be outside the NGS proper property boundary given the height of the three NGS Stacks.

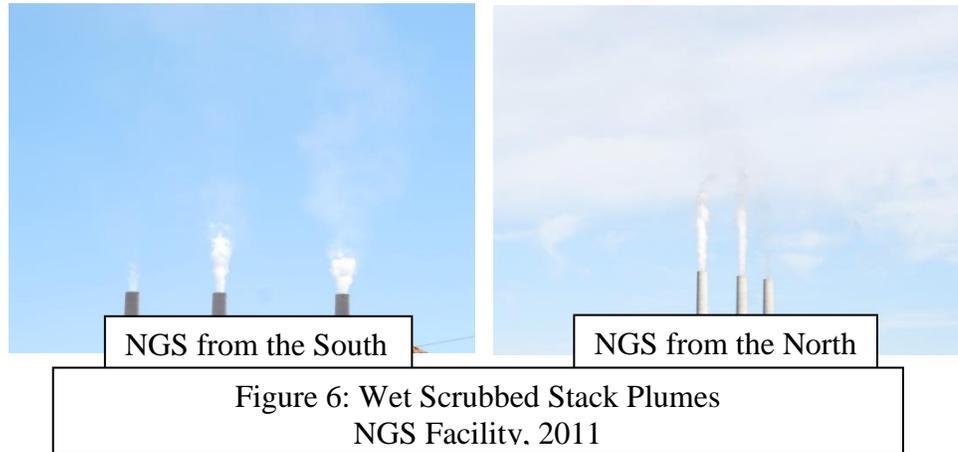
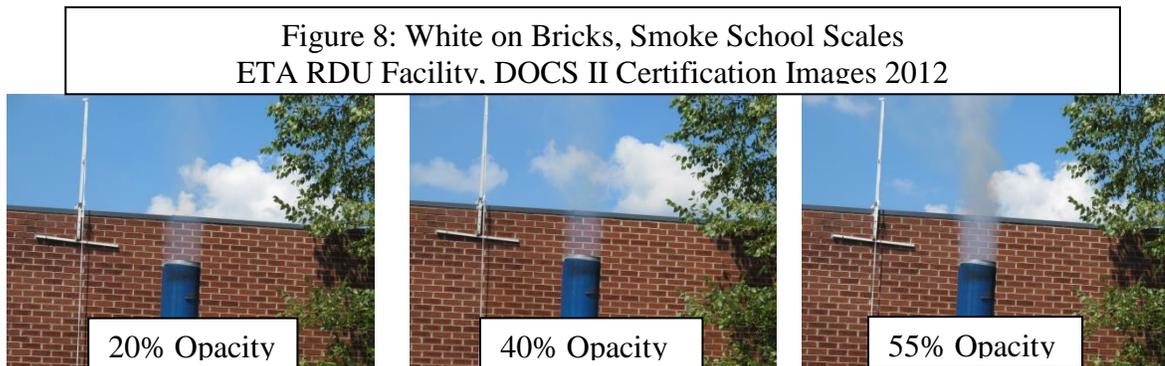


Figure 7 and 8 depict the smoke school opacity scale of white smoke at 20, 40, 60 percent opacity for comparison purpose. Note the contrasting back ground offers a significant impact to the apparent opacity.



Discussion, EPA Method 9 and ALT 082 have the same operational procedures, in that positioning of the observer/camera relative to the observation point (point of highest apparent opacity that does not contain water vapor), the orientation of the sun and the angle of view. Angle of view compliance in the case of NGS's tall stacks is outside the NGS facility. EPA Method 9 observations are performed by a certified human who looks at the plume and records an opacity value, every fifteen seconds for the averaging period, which varies by source at NGS. Six minute averages (24 readings) is the most common. During a study performed for EPA OAQPS comparing human observers to the digital cameras in 2015, the results were nearly identical when well trained unbiased Method 9 human observers were compared to ALT 082 results. However, the studies performed all pointed out the inability of humans to record an observation every 15 seconds for long durations of time, fraught with error, effectively longer than 6 mins at a time (24 reads) resulted in an error. Therefore and automated means not required by Method 9 was used to compare the methods.

In summary, EPA Method 9 is a legacy method that provides for accurate opacity measurements averaged over six minute time periods. However, Method 9 has the following limitations that make it inadequate for use at the NGS facility. The Method 9 requires:

- Representative training and certification, which is difficult if not impossible to obtain with a background that matches the backgrounds witnessed at the NGS Facility.
- Unbiased observers, which is difficult if not impossible to obtain given the small population of qualified individuals on the Navajo Nation.
- Space and/or access to allow observations to be performed at distances that allow compliance with the slant angle restriction of the method. Which is difficult if not impossible for some NGS sources within the facility boundary.

The visible emissions from the NGS Facility have a significant effect on multiple National Parks and recreation areas in multiple states. The emissions are subject to multiple regulations and each requires some limitation on the opacity of the emissions. Further, the ability to reuse observation data for multiple compliance and conservation related initiatives are paramount.

The New Source Review process is specifically designed to allow for new and more appropriate methods as they become available. The National Institute of Standards and Technology Act requires preference to be given to Industry consensus standards when applicable.

Therefore the Petitioner argues that ALT 082 is more appropriate for the monitoring of opacity at the NGS than Method 9 because visible emission measurements from the facility are of concern to many stakeholders regarding: Regional Haze management; the enjoyment of our National Parks and Recreation areas, the public health of the Navajo Nation, the millions of tourist who visit the Grand Canyon annually, the population of Page, AZ and the usability of one

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on the largest manmade reservoirs in the nation. The use of EPA ALT 082 in the NGS facility would resolve:

- Training issues given that digital cameras record the background for historical reference.
- Bias given that digital cameras produce reproducible opacity observations.
- Space given that cameras can be mounted at various heights to address slant constraints.

Use of EPA ALT 082 would add:

- Compliance with the NISTA
- Repeatable and reproducible opacity measurements
- Auditable and verifiable opacity records
- Increased control of fugitive sources through the ability to "replay" dust events
- Greater security for the NGS national asset

The facts conclude Method 9 is not adequate for the measurement of opacity at the NGS while the use of EPA Alternative Method 082 (ALT 082) would produce repeatable and reproducible observations that could significantly help visibility planning issues as voiced by the park service in this matter. Health concerns raised by other commenters and epidemiologic concerns voiced by other concerned individuals. The use of cameras to monitor opacity of all visible emissions at the NGS would provide a core of authoritative data that could be used to baseline across the various visibility stakeholders.

3) Finding of Discretion

The published direction of the EPA is to embarrass and move towards automated compliance where possible as soon as possible. The EPA OECA publishes the Next Generation Compliance Strategic plan of which all 5 primary goals are supported by ASTM D7520 and EPA Alternative Method 082. EPA Air and Radiation promulgated the Ferro-Alloy NESHAP mandating the use of the Digital Camera Opacity Technique for process fugitive emissions, citing DCOT as the Best Available Control Technology.

It seem logical that consistent direction should be applied to the measurement of opacity throughout the EPA Regions and Tribal Nations. The legacy standard proved the same method could be used globally for the measurement of opacity. EPA ALT 082 has now automated that method adding transparency and accountability. ASTM D7520 has earned its rights to be the preferred method for the monitoring of opacity on a global basis. The National Institute of Standards and Technology Act, requires Federal Government Agencies to use consensus standard where possible. In the instance of NGS NSR T-0004-NN the use of EPA ALT 082 for the measurement of Opacity is not only possible it is preferable on all accounts.

The use of EPA ALT 082 supports:

Compliance with the NISTA, through the use of ASTM developed and maintained standard
Support for all five goals of the EPA Next Generation Policy

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Sustainability through the use of innovation to reduce burden and cost throughout the government and private sector

The creation of reusable visible emission observations to support a variety of initiatives related to the preservation of the environment and the protection of the public health.

Attachment 1, EPA Next Generation Plan Excerpts

Next Generation Compliance: Strategic Plan 2014-2017

The Next Generation Compliance Strategic Plan charts our path forward in the coming years. The Plan was developed by a workgroup from OECA Headquarters office and the regional offices, focusing on what we will do to implement Next Generation Compliance while reinforcing collaboration across EPA and with our state and tribal partners.

The Next Generation Compliance Strategic Plan is organized around the five interconnected components:

- More Effective Regulations and Permits
- Advanced Monitoring
- Electronic Reporting
- Expanded Transparency, and
- Innovative Enforcement

Attachment 2, NISTA Excerpt

NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY ACT AMENDMENTS.

The National Institute of Standards and Technology Act (15 U.S.C. 271 et seq.) is amended--

SEC. 12. STANDARDS CONFORMITY.

(a) USE OF STANDARDS- Section 2(b) of the National Institute of Standards and Technology Act (15 U.S.C. 272(b)) is amended--

(1) in paragraph (2), by striking ` , including comparing standards' and all that follows through ` Federal Government';

(2) by redesignating paragraphs (3) through (11) as paragraphs (4) through (12), respectively; and

(3) by inserting after paragraph (2) the following new paragraph:
` (3) to compare standards used in scientific investigations, engineering, manufacturing, commerce, industry, and educational institutions with the standards adopted or recognized by the Federal Government and to coordinate the use by Federal agencies of private sector standards, **emphasizing where possible the use of standards developed by private, consensus organizations**;'.

(b) CONFORMITY ASSESSMENT ACTIVITIES- Section 2(b) of the National Institute of Standards and Technology Act (15 U.S.C. 272(b)) is amended--

(1) by striking `and' at the end of paragraph (11), as so redesignated by subsection (a)(2) of this section;

(2) by striking the period at the end of paragraph (12), as so redesignated by subsection (a)(2) of this section, and inserting **in lieu** thereof ` ; and'; and

(3) by adding at the end the following new paragraph:

` (13) to coordinate Federal, State, and local technical standards activities and conformity assessment activities, with private sector technical standards activities and conformity assessment activities, with the goal of **eliminating unnecessary duplication and complexity** in the development and promulgation of conformity assessment requirements and measures.'.

(c) TRANSMITTAL OF PLAN TO CONGRESS- The National Institute of Standards and Technology shall, within 90 days after the date of enactment of this Act, transmit to the Congress a plan for implementing the amendments made by this section.

(d) UTILIZATION OF CONSENSUS TECHNICAL STANDARDS BY FEDERAL AGENCIES; REPORTS - (1) IN GENERAL- Except as provided in paragraph (3) of this subsection, **all Federal agencies and departments shall use technical standards** that are developed or adopted **by voluntary consensus standards bodies**, using such technical standards as a means to carry out policy objectives or activities determined by the agencies and departments.

Attachment 3, 40 CFR 49.124 NSR

Title 40: Protection of Environment
PART 49—INDIAN COUNTRY: AIR QUALITY PLANNING AND MANAGEMENT
Subpart C—General Federal Implementation Plan Provisions

§49.124 Rule for limiting visible emissions.

(a) *What is the purpose of this section?* This section limits the visible emissions of air pollutants from certain air pollution sources operating within the Indian reservation to control emissions of particulate matter to the atmosphere and ground-level concentrations of particulate matter, to detect the violation of other requirements in the "General Rules for Application to Indian Reservations in EPA Region 10", and to indicate whether a source is continuously maintained and properly operated.

(b) *Who is affected by this section?* This section applies to any person who owns or operates an air pollution source that emits, or could emit, particulate matter or other visible air pollutants to the atmosphere, unless exempted in paragraph (c) of this section.

(c) *What is exempted from this section?* This section does not apply to open burning, agricultural activities, forestry and silvicultural activities, non-commercial smoke houses, sweat houses or lodges, smudge pots, furnaces and boilers used exclusively to heat residential buildings with four or fewer dwelling units, fugitive dust from public roads owned or maintained by any Federal, Tribal, State, or local government, and emissions from fuel combustion in mobile sources.

(d) *What are the opacity limits for air pollution sources?* (1) The visible emissions from an air pollution source must not exceed 20% opacity, averaged over any consecutive six-minute period, unless paragraph (d)(2) or (d)(3) of this section applies to the air pollution source.

(2) The visible emissions from an air pollution source may exceed the 20% opacity limit if the owner or operator of the air pollution source demonstrates to the Regional Administrator's satisfaction that the presence of uncombined water, such as steam, is the only reason for the failure of an air pollution source to meet the 20% opacity limit.

(3) The visible emissions from an oil-fired boiler or solid fuel-fired boiler that continuously measures opacity with a continuous opacity monitoring system (COMS) may exceed the 20% opacity limit during start-up, soot blowing, and grate cleaning for a single period of up to 15 consecutive minutes in any eight consecutive hours, but must not exceed 60% opacity at any time.

(e) *What is the reference method for determining compliance?* (1) The reference method for determining compliance with the opacity limits is EPA Method 9. A complete description of this method is found in appendix A of 40 CFR part 60.

(2) An alternative reference method for determining compliance is a COMS that complies with Performance Specification 1 found in appendix B of 40 CFR part 60.

(f) *Definitions of terms used in this section.* The following terms that are used in this section, are defined in §49.123 General provisions: Act, agricultural activities, air pollutant, air pollution source, ambient air, coal, continuous opacity monitoring system (COMS), distillate fuel oil, emission, forestry or silvicultural activities, fuel, fuel oil, fugitive dust, gaseous fuel, grate cleaning, marine vessel, mobile sources, motor vehicle, nonroad engine, nonroad vehicle, oil-fired boiler, opacity, open burning, particulate matter, PM10, PM2.5, reference method, refuse, Regional Administrator, residual fuel oil, smudge pot, solid fuel, solid fuel-fired boiler, soot blowing, stack, standard conditions, start-up, stationary source, uncombined water, used oil, visible emissions, and wood.

Attachment 4 40 CFR 52.21 PSD

40 CFR 52.21 - Prevention of significant deterioration of air quality. Section 12, Best available control technology, Section 19, Innovative control technology

[CFR-2011-title40-vol3-sec52-21.pdf](#)

(12) Best available control technology means an emissions limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to regulation under Act which would be emitted from any proposed major stationary source or major modification which the Administrator, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques,

(19) Innovative control technology means any system of air pollution control that has not been adequately demonstrated in practice, but would have a substantial likelihood of achieving greater continuous emissions reduction than any control system in current practice or of achieving at least comparable reductions at lower cost in terms of energy, economics, or nonair quality environmental impacts.

(20) Fugitive emissions means those emissions which could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening.

Attachment 5, Comment on EPA-R09-OAR-2016-0026-0001

This is a Comment on the Environmental Protection Agency (EPA) Other: NGS Proposed Permit Feb 2016

Comment

III Facility Operation should be amended to support the review of imagery associated with opacity observations performed in support of all opacity limits with the permit and facility.

X-A.4 and 5 should be changed to include the use of EPA Alternative Method 082 (Digital Camera Opacity Technique (DCOT)) for the monitoring of visible emission.

A-B.4 and 5 and 8 should be changed to include the use of EPA Alternative Method 082 (Digital Camera Opacity Technique (DCOT)) for the monitoring of visible emission.

Rational:

EPA Alternative Method 082 has been determined in the Ferro Alloy NESHAP final rule as BACT for opacity measurement, this is a BACT driven permit and thus should include BACT for all monitoring requirements unless BACT is cost prohibitive. Given the cost to maintain Method 9 certification in Page Arizona the use of EPA Alternative Method 082 would be less expensive, more reliable and repeatable than Method 9. Further, imagery from camera used to perform EPA Alternative Method 082 opacity observations could be posted to public web sites for community relations improvement.

Experience: Being a native of Arizona I have spent a great amount of time boating on Lake Powell. I have notice coal dust, road dust, and excessive emission from the NGS facility. Given that camera based technology exists, is certified as BACT for opacity, and is cost effective, I do not believe any permit should be promulgated with out its requirement. Methods, 22 and 9 are very subjective legacy methods and COMS are not representative of the exit opacity values. I have personal witnessed secondary formations from NGS that significantly exceed the stack exit opacity (measured beyond the condensed water vapor). I have witnessed coal dust emissions at opacities greater than 60% hundreds of feet in the air and at water level in the lake Powell main channel just north of Antelope Point marina.

Attachment 6, Recommended NGS NSR T-0004-NN changes

Section X: SPECIAL CONDITIONS PURSUANT TO 40 CFR 49.151-161 – MINOR NSR IN INDIAN COUNTRY – Units IDs: PAC Silo A, PAC Silo B, Dust Collectors DC-12 and DC-13, Cement Kiln Dust Storage Silos DC-14 through DC-16, Cement Kiln Dust Day Bins DC-17 and DC-18, Fugitive-PAC, Fugitive-CKD, Fugitive-CaBr₂

Subsection B: Monitoring and Recordkeeping Requirements

Requirement 4: As Published

At least once during each calendar week the Permittee shall perform a visible emissions survey for each PAC Silo (Silos A and B), Dust Collectors DC-12 and DC-13, Cement Kiln Dust Storage Silos (DC-14 through DC-16), and Cement Kiln Dust Day Bins (DC-17 and DC-18). The survey shall be performed during daylight hours by an individual trained in EPA Method 22, while the equipment is in operation. If visible emissions are detected during the survey, the permittee shall perform a 6-minute EPA Method 9 observation. If visible emissions during the 6-minute EPA Method 9 observation exceed 7 percent opacity, the Permittee shall take corrective action so that within 24 hours no visible emissions are detected.

Requirement 4: As Petitioned to be changed

At least once during each calendar week the Permittee shall perform a visible emissions survey for each PAC Silo (Silos A and B), Dust Collectors DC-12 and DC-13, Cement Kiln Dust Storage Silos (DC-14 through DC-16), and Cement Kiln Dust Day Bins (DC-17 and DC-18). The survey shall be performed during daylight hours by an individual trained in EPA Method 22, while the equipment is in operation. The survey of each piece of equipment shall be documented with a digital image demonstrating the absence of visible emissions. If visible emissions are detected during the survey, the permittee shall perform a 6-minute EPA ALT 082 and/or Method 9 observation. If visible emissions during the 6-minute EPA ALT 082 and/or Method 9 observation exceed 7 percent opacity, the Permittee shall take corrective action so that within 24 hours no visible emissions are detected as documented with a digital image.

Notates the Recommended Changes