To: Craig Almanza[Craig.Almanza@tn.gov]
Cc: McMillan, Laura[McMillan.Laura@epa.gov]
From: McNeal, Dave
Sent: Tue 2/27/2018 8:33:31 PM
Subject: RE: EPA SW R4 presentation
Subparts XXX and Cf Feb 2018 V2.pptx

Craig,

Based upon some input from Ken Mitchell, I have made a few small changes to my presentation, and the latest version is attached.

David McNeal

EPA Region 4

404-562-9102 (office)

404-245-5281 (cell)

From: Craig Almanza [mailto:Craig.Almanza@tn.gov]
Sent: Tuesday, February 27, 2018 7:34 AM
To: McNeal, Dave <Mcneal.Dave@epa.gov>
Cc: McMillan, Laura <McMillan.Laura@epa.gov>
Subject: RE: EPA SW R4 presentation

Please disregard this e-mail. I was able to figure it out.

From: Craig Almanza
Sent: Tuesday, February 27, 2018 6:28 AM
To: 'McNeal, Dave'
Cc: McMillan, Laura
Subject: RE: EPA SW R4 presentation

Dave / Laura,

For some reason I cannot access the attachment in One Drive. Can you please e-mail the file directly to me?

Thanks,

Craig

From: McNeal, Dave [mailto:Mcneal.Dave@epa.gov]
Sent: Monday, February 26, 2018 3:00 PM
To: Craig Almanza
Cc: McMillan, Laura
Subject: RE: EPA SW R4 presentation

McNeal, Dave has shared a OneDrive for Business file with you. To view it, click the link below.
Subparts XXX and Cf Feb 2018.pptx

Craig,

Here is some information you can use for my introduction,

1. Worked as a stack tester before coming to EPA.
2. Region 4 expert for stack testing and monitoring.
3. With EPA for over 30 years.
4. Worked on landfill NSPS issues for over 20 years.

I have attached a copy of the PowerPoint presentation that I plan to use for my talk.

With respect to the questions you posed in your email, I won't be able to address any ongoing discussions between EPA Headquarters and industry groups. I'm not "in the loop" as far these discussions go, and even if I was, anything I could say would probably be very limited. I should be able to address your second and third questions.

My plans are to drive up from Atlanta early Wednesday afternoon so that I can stop by the meeting location and talk to you the day before my presentation.

David McNeal

EPA Region 4

404-562-9102 (office)

404-245-5281 (cell)

From: Craig Almanza [mailto:Craig.Almanza@tn.gov]
Sent: Friday, February 23, 2018 11:14 AM
To: McMillan, Laura <McMillan.Laura@epa.gov>; McNeal, Dave <Mcneal.Dave@epa.gov>
Cc: Jeremy Hooper <Jeremy.Hooper@tn.gov>; Travis Blake <Travis.Blake@tn.gov>
Subject: RE: EPA SW R4 presentation

Laura,

This is good news! Thanks for your help.

Mr. McNeal – I am facilitating this 1-hour roundtable discussion. I am grateful that you will be able to make the presentation. Here is how I anticipate the session will flow:

1. Craig to thank participants and make introductions for TDEC personnel and USEPA Presenter (Please supply me some basic information about you so I can introduce you) – Est. time = 5 Minutes

2. USEPA to make Presentation – Est. Time = 20 to 30 Minutes

3. TDEC Solid Waste Program Manager (me) and TDEC Div. Air Pollution Control Manager (Travis Blake) to start out with a few questions regarding the NSPS XXX and Cf rules – Est. Time = 10 Minutes

4. I will then open the session up to the other R4 states so they can ask questions or provide discussion / feedback. – Est. Time = Remainder of available time.

As I discussed with Laura yesterday, I am providing you in this e-mail the questions I am planning on asking. Here they are:

- The USEPA Director put a stay on the NSPS rules once the new Administration was elected. This stay has been lifted and the new XXX rule is being implemented. I understand that the industry group (SWANA, Republic, WM, etc.) has had a number of meetings with EPA to discuss the new NSPS rule. Can you elaborate on those discussions?

- The new NSPS XXX rule references NESHAP (Subpart AAAA); however, NESHAP Subpart AAAA still references the old NSPS WWW rule. How does EPA envision solving this issue? Are landfills to follow both XXX and WWW until a solution is made? Any guidance?

- Travis will ask a question regarding the implementation of the State EG Plans. Guidance? Timing? Etc.

Please feel free to call me regarding this e-mail. I will be attending the entire meeting (Monday to Thursday). Please let me know when you will be arriving, and perhaps we can meet for a few minutes to discuss.

Again, I appreciate that you will be attending. Thank you.

Craig Almanza

Solid Waste Program Manager

Division of Solid Waste Management

William R. Snodgrass TN Tower, 12th Floor

312 Rosa L. Parks Avenue

Nashville, Tennessee 37243

Office: 615-253-7321 | Mobile: 615-574-1418

craig.almanza@tn.gov

We value your feedback! Please complete our customer satisfaction survey customer satisfaction survey

From: McMillan, Laura [mailto:McMillan.Laura@epa.gov]
Sent: Friday, February 23, 2018 9:06 AM
To: Craig Almanza; McNeal, Dave
Subject: EPA SW R4 presentation

***** This is an EXTERNAL email. Please exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email - STS-Security. *****

Craig,

I have great news, the Region 4 air landfill expert, Dave McNeal, has agreed to present at the meeting next week. He will be able to provide far more insights into the new regulations than EPA SW HQ staff would have been able to.

Dave, Craig has mentioned that he anticipates that you will do an initial presentation for 20 minutes then go into a conversation with Craig and a TDEC Air Department Managers about the new rules. Craig then anticipates an open the discussion with an opportunity for questions. I wanted to introduce both of you over email so if either has any questions or further clarifications you can discuss now, while the presentation is still several days out.

If you have any questions next week please don't hesitate to call me on my cell phone at 404-895-8253

Thank you so much for both being speakers at the conference, I really look forward to this session as I believe it will shed much needed light on a common state issue.

Laura McMillan

RCRD | USEPA Region 4

Atlanta, Ga. | 61 Forsyth St. SW

(404)562-8584 | McMillan.Laura@epa.gov

New Source Performance Standards for Municipal Solid Waste Landfills

40 CFR Part 60, Subparts WWW, XXX, and Cf

David McNeal

EPA Region 4

mcneal.dave@epa.gov

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Why Regulate Landfill Air Emissions?

- On average, each megagram of waste will generate 170 cubic meters (6,000 cubic feet) of gas by the time it completely decomposes
- Decomposition takes 20 to 50 years, depending upon moisture levels in the waste
- Typical landfill gas is roughly a 50/50 mixture of methane and CO_2 where nonmethane organic compounds (NMOCs) are present in conentrations of a few hundred to a few thousand parts per million by volume (ppmv)
- Both methane and NMOCs can percolate up to the landfill surface and generate air emissions

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NSPS Subpart WWW Applicability

- Promulgated in March 1996
- Applicable to municipal solid waste landfills that commenced construction, reconstruction or modification on or after May 30, 1991
- Existing landfills are subject to 111 (d) rules with requirements the same as those in Subpart WWW
- NSPS are technology-based standards
- Most activities under Subpart WWW are delegated to State and Local Agencies

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NSPS Subpart WWW Reporting

- Owners and operators of landfills with a design capacity less than 2.5 million megagrams (Mg) by mass or 2.5 million cubic meters by volume must submit an initial design capacity report
- Owners and operators of landfills with a design capacity equal to or greater than 2.5 million Mg and 2.5 million cubic meters must calculate the NMOC emission rate for the landfill and report the results on annual basis
- Facilities with design capacities below 2.5 million Mg or 2.5 million cubic meters trigger the annual emission reporting requirement if they expand their capacity beyond those thresholds

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NSPS Subpart WWW Control Requirements

- A gas collection and control system (GCCS) must be installed once the calculated NMOC emission rate is equal to or greater than 50 Mg per year
- A plan for the GCCS must be submitted within one year after the first annual report indicating that the NMOC emission rate is equal to or greater than 50 Mg per year
- Installation of the GCCS must be completed within 30 months after the first annual report indicating that the NMOC emission rate is equal to or greater than 50 Mg per year
- Wells are required in closed areas where waste has been in place for 2 years or more and in active areas where waste has been in place for 5 years or more

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NSPS Subpart WWW Emission Calculations

- One option for calculating NMOC emission rates is to use default equations promulgated in 40 CFR 60.754 (Tier 1)
- The default equations tend to overestimate emissions, but they provide a simple, low-cost way of determining if a GCCS is needed
- The default NMOC concentration and under 40 CFR 60.754 is 4000 ppmv as hexane
- The default methane generation rate constant under 40 CFR 60.754 is either 0.05 or 0.02 per year (the lower value is for areas with annual precipitation of less than 25 inches)

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NSPS Subpart WWW Emission Calculations

$$M_{NMOC} = \sum_{i=1}^{n} 2\,k\,L_o M_i \left(e^{-kt_i}\right)\left(C_{NMOC}\right)\left(3.6\times10^{-9}\right)$$

where,

M_{NMOC} = Total NMOC emission rate from the landfill, megagrams per year

k = methane generation rate constant, year^{-1}

L_o = methane generation potential, cubic meters per megagram solid waste (170 cubic meters per megagram)

M_i = mass of solid waste in the ith section, megagrams

t_i = age of the ith section, years

C_{NMOC} = concentration of NMOC, parts per million by volume as hexane

3.6×10^{-9} = conversion factor

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NSPS Subpart WWW Emission Calculations

- If the default equation indicates that NMOC emissions equal or exceed 50 Mg per year, the landfill owner/operator has the option of conducting tests to determine a site-specific NMOC concentration (Tier 2) and/or methane generation rate constant (Tier 3)
- Determining a site-specific NMOC concentration or methane generation rate constant entails testing costs, but it may result in overall cost savings by pushing back the GCCS installation date
- Tier 2 and Tier 3 testing must be repeated every five years

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NSPS Subpart WWW NMOC Control Options

- Route the landfill gas to an open flare that meets the design and operating requirements in 40 CFR 60.18,
- Route the landfill gas to a control device that reduces NMOC emissions by 98 percent or down to a concentration of less than equal to 20 ppm, corrected to three percent oxygen, or
- Route the landfill gas to a treatment system that processes the collected gas for subsequent sale or use
- Potential uses for treated gas include on-site electrical generation, sale as natural gas, use as vehicle fuel, or as a chemical feedstock

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NSPS Subpart WWW Treatment Option

- Treated gas is no longer subject to the control requirements in Subpart WWW
- Subpart WWW does not define treatment, but a series of determinations issued after promulgation of the rule say that treatment consists of three steps – filtering the landfill gas to 10 microns or less, dewatering, and compression

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Subpart WWW Monthly Well Monitoring

- Pressure at wellhead must be negative unless there is a fire, a geomembrane or synthetic cover is in place, or a well has been decommissioned due to declining gas flow rates
- Well temperature – limit is 55 □C (131 □C)
- Gas composition – limit is 20 % for nitrogen or 5 % for oxygen
- Higher temperature, nitrogen, and or oxygen limits can be approved by State Agency if a landfill owner/operator demonstrates that the higher value does not cause fires or significantly inhibit anaerobic decomposition by killing methanogens

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Operational Parameter Monitoring

- Continuous temperature and bypass flow monitoring for enclosed combustors
- Continuous monitoring for presence of a flame and bypass flow monitoring for flares

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Quarterly Methane Surface Concentration Monitoring

- Use portable detection equipment (OVA, FID, etc.) to measure methane concentration across the surface of the landfill
- Measurements must be made at 30 meter intervals and where visual observations (i.e., cracks in the landfill surface or distressed vegetation) indicate the potential for leaks
- Measurements made within 5 to 10 centimeters of the ground
- Exceedances are defined as a methane concentration of 500 ppm or more above background
- Areas with steep slopes or other dangerous areas may be excluded from monitoring

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Corrective Action Provisions

- First attempt at correcting pressure, temperature, or gas quality exceedances must be made with 5 days
- The gas collection system must be expanded within 120 days if an exceedance cannot be corrected within 15 days of discovery
- For methane surface concentrations of 500 ppm or greater, re-monitoring is required with 10 days
- If the methane surface concentrations is 500 ppm or greater during three successive checks within a quarterly period, a new well or other collection device must be installed with 120 days
- Owners/operators can request approval of an alternative timeline for correcting exceedances

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NSPS Subpart XXX

- Proposed on July 17, 2014
- Applicable to municipal solid waste landfills that commenced construction, reconstruction or modification on or after the proposal date
- Promulgated on August 29, 2016
- Effective date of October 28, 2016
- 90-day stay was in place between May 31, 2017 and August 29, 2017
- Due to the expiration of the 90-day stay, Subpart XXX is in effect

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NSPS Subpart XXX Final Rule

- Requirements very similar to those in Subpart WWW
- Lowers the NMOC emission rate threshold that triggers the requirement for a GCCS from 50 Mg/yr to 34 Mg/yr
- Includes a definition for the word treatment
- Requires monitoring of all surface penetrations during quarterly surface monitoring events
- Includes a requirement that landfill owners and operators estimate the magnitude of emissions during startup, shutdown, and malfunction

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Subpart XXX Tier 4 Option

- Option available to landfills whose NMOC emission rate falls between 34 Mg/yr and 50 Mg/yr based upon Tier 1 – 3 calculations
- Requirement for a GCCS is not triggered if quarterly monitoring indicates that the surface methane concertation is less than 500 parts per million (ppm)
- Submittal of a GCCS design plan required within one year after the first instance when the methane concentration is 500 ppm or greater during a quarterly monitoring event
- Cannot go back to Tier 1, 2, or 3 if surface methane concentration greater than 500 ppm is detected during Tier 4 monitoring

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Impact of Subpart XXX

- NMOC emission reduction of 12,240 Mg/yr by 2025
- Methane emission reduction of 1,929,800 Mg/year by 2025
- CO_2e emission reduction of 48.3 million Mg/yr by 2025
- For comparison, in 2015, US CO_2 emissions were 5.2 billion tons and global CO_2 emission rate were 36.1 billion tons

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NSPS Subpart Cf

- 111(d) rule for existing landfills (i.e. those constructed, reconstructed, or modified before July 17, 2014)
- Requirements under Subpart Cf are the same as those in Subpart XXX
- Subpart WWW sources will eventually become subject to the more stringent requirements under Subpart Cf

ED_001764_00013903

Subpart Cf Rulemaking Process

- Original due date for State plans was May 30, 2017
- EPA must approve or disapprove plans or plan revisions within four months after receipt
- EPA must propose a Federal plan for States that either do not submit a plan or submit a plan that is not approvable
- Due to the expiration of the 90-day stay on August 29, 2017, Subpart Cf is in effect
- Because EPA is reconsidering several aspects of the landfill NSPS, the Agency does not plan to prioritize the review of 111(d) plans submitted by States

To: Russo, Todd[Russo.Todd@epa.gov]
Cc: Dressler, Jason[Dressler.Jason@epa.gov]
From: McNeal, Dave
Sent: Tue 2/14/2017 1:29:28 PM
Subject: FW: Emission Inventory Data for MSW Landfill State Plans (40CFR60 Sub Cf)
Landfill 111d guidnace.pdf

Here an email chain regarding emission inventory requirement for 111(d) plan submittals. A PDF of EPA's 1998 guidance is attached.

From: Mitchell, Ken
Sent: Monday, February 06, 2017 1:49 PM
To: McNeal, Dave <Mcneal.Dave@epa.gov>
Subject: RE: Emission Inventory Data for MSW Landfill State Plans (40CFR60 Sub Cf)

Thanks! Good work!

Kenneth L. Mitchell, Ph.D. | Special Assistant to the Director |
Air, Pesticides, and Toxics Management Division
U.S. Environmental Protection Agency | 61 Forsyth Street, SW | Atlanta, GA 30303
Voice: 404-562-9065 | Fax: 404-562-9066 | Email: mitchell.ken@epa.gov
Healthier Families, Cleaner Communities, A Stronger America

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From: McNeal, Dave
Sent: Monday, February 06, 2017 12:05 PM
To: Mitchell, Ken <Mitchell.Ken@epa.gov>
Cc: Dubose, Dick <DuBose.Dick@epa.gov>; Russo, Todd <Russo.Todd@epa.gov>; Dressler, Jason <Dressler.Jason@epa.gov>; Bloeth, Mark <Bloeth.Mark@epa.gov>; Goff, Keith <Goff.Keith@epa.gov>
Subject: RE: Emission Inventory Data for MSW Landfill State Plans (40CFR60 Sub Cf)

Ken,

I talked to Bert Pearce on Friday and provided him with information regarding the preferred options for calculating NMOC emission rates for the emission inventory that must be included their landfill 111(d) plan. Prior to calling him, I exchanged emails with Andrew Sheppard of OAQPS who concurred with my interpretation regarding the order of preference for the three emission inventory calculation options (i.e., Tier 2/3, AP-42, Tier 1).

During Friday's call, Bert also had some detailed questions regarding how to use the equations in AP-42. Today, I called him back to answer his remaining questions. I didn't need to contact Andrew Sheppard regarding these issues since the AP-42 equations are fairly straightforward compared to the emission inventory questions that Bert had asked previously.

Bert also mentioned that they may want to have another meeting to discuss SSI and landfill state plan issues, and I recommended that he work through you to set something up if they decide another meeting is necessary.

David McNeal

EPA Region 4

404-562-9102

From: Mitchell, Ken
Sent: Thursday, February 02, 2017 11:35 AM
To: McNeal, Dave <Mcneal.Dave@epa.gov>
Subject: RE: Emission Inventory Data for MSW Landfill State Plans (40CFR60 Sub Cf)

thnx

Kenneth L. Mitchell, Ph.D. | Special Assistant to the Director |
Air, Pesticides, and Toxics Management Division
U.S. Environmental Protection Agency | 61 Forsyth Street, SW | Atlanta, GA 30303

Voice: 404-562-9065 | Fax: 404-562-9066 | Email: mitchell.ken@epa.gov
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From: McNeal, Dave
Sent: Thursday, February 02, 2017 10:49 AM
To: Mitchell, Ken <Mitchell.Ken@epa.gov>
Subject: RE: Emission Inventory Data for MSW Landfill State Plans (40CFR60 Sub Cf)

Ken,

I tried to call Bert, but he his voice says that is out today. He should be back in the office tomorrow, and I will call him back then to give him our answer and find out whether he wants us to follow up with an email.

David McNeal

EPA Region 4

404-562-9102

From: Mitchell, Ken
Sent: Thursday, February 02, 2017 9:30 AM
To: McNeal, Dave <Mcneal.Dave@epa.gov>
Cc: Russo, Todd <Russo.Todd@epa.gov>; Dubose, Dick <DuBose.Dick@epa.gov>; Spagg, Beverly <Spagg.Beverly@epa.gov>; Bloeth, Mark <Bloeth.Mark@epa.gov>; Dressler, Jason <Dressler.Jason@epa.gov>; Goff, Keith <Goff.Keith@epa.gov>
Subject: RE: Emission Inventory Data for MSW Landfill State Plans (40CFR60 Sub Cf)

Dave….Thanks for looking into this. I would call Bert directly and talk it over with him. If he wants it in writing, then please draft up an email for you, me and Dick to review.

Kenneth L. Mitchell, Ph.D. | Special Assistant to the Director |
Air, Pesticides, and Toxics Management Division
U.S. Environmental Protection Agency | 61 Forsyth Street, SW | Atlanta, GA 30303
Voice: 404-562-9065 | Fax: 404-562-9066 | Email: mitchell.ken@epa.gov
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From: McNeal, Dave
Sent: Thursday, February 02, 2017 9:09 AM
To: Mitchell, Ken <Mitchell.Ken@epa.gov>
Subject: FW: Emission Inventory Data for MSW Landfill State Plans (40CFR60 Sub Cf)

Ken,

OAQPS concurs with my interpretation regarding the preferred approaches for calculating emission rates for the emission inventory that must be included with the state 111(d) plans for landfills. Do you want to forward the answer to Bert Pierce or do you want me to do it?

David McNeal

EPA Region 4

404-562-9102

From: Sheppard, Andrew
Sent: Thursday, February 02, 2017 8:31 AM
To: McNeal, Dave <Mcneal.Dave@epa.gov>
Cc: Mitchell, Ken <Mitchell.Ken@epa.gov>
Subject: RE: Emission Inventory Data for MSW Landfill State Plans (40CFR60 Sub Cf)

You've got it exactly right!

Andy Sheppard

U.S. EPA, Sector Policies and Programs Division, OAQPS

Natural Resources Group

(919)541-4161

From: McNeal, Dave
Sent: Tuesday, January 31, 2017 5:18 PM
To: Sheppard, Andrew <sheppard.andrew@epa.gov>
Cc: Mitchell, Ken <Mitchell.Ken@epa.gov>
Subject: FW: Emission Inventory Data for MSW Landfill State Plans (40CFR60 Sub Cf)

Andrew,

Thanks for yesterday's quick response to my question regarding the relationship between MACT Subpart AAAA and the new NSPS subparts (Cf and XXX) for landfills.

I can also use some help putting together a response to questions that the Georgia Environmental Protection Division (EPD) has posed regarding how to prepare the emission inventory that must be included with the State's 111(d) plan. The requirement to provide an emission inventory with the plan is promulgated at 40 CFR 60.25(a), and EPD has asked for clarification regarding the types of data that can be used for calculating each landfill's NMOC emission rate.

Based upon my reading of Section 3.4.1 in the attached 1998 guidance document for the implementation NSPS Subpart Cc, the NMOC emission rate calculation options (listed in order of preference) are as follows:

1. Calculations that use site specific data (i.e. Tier 2 and/or Tier 3 results).

2. Calculations done in accordance with AP-42.

3. Calculations done in accordance with Tier 1.

From the discussion in Section 3.4.1 of the 1998 guidance, AP-42seems to be preferred over Tier 1 for estimating emissions because it uses a lower default value for the NMOC concentration in the landfill gas (2420 ppm, as hexane instead of 4000 ppm, as hexane) and will yield results that are likely to be nearer the actual emission rate than the more conservative Tier 1 approach whose intended use is determining when a gas collection and control system must be installed.

Before I send the EPD an email summarizing my understanding of the best approaches for calculating the emission inventory that must be included with the State's 111(d) plan submittal, I would like to know whether you agree with the way I have ranked the available options.

David McNeal

EPA Region 4

404-562-9102

From: Mitchell, Ken
Sent: Thursday, January 26, 2017 4:23 PM
To: McNeal, Dave <Mcneal.Dave@epa.gov>
Subject: FW: Emission Inventory Data for MSW Landfill State Plans (40CFR60 Sub Cf)

Kenneth L. Mitchell, Ph.D. | Special Assistant to the Director |
Air, Pesticides, and Toxics Management Division
U.S. Environmental Protection Agency | 61 Forsyth Street, SW | Atlanta, GA 30303
Voice: 404-562-9065 | Fax: 404-562-9066 | Email: mitchell.ken@epa.gov
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communication in error, please do not print, copy, retransmit, disseminate, or otherwise use the information. Also, please indicate to the sender that you have received this communication in error, and delete the copy you received.

From: Pearce, Albert [mailto:Albert.Pearce@dnr.ga.gov]
Sent: Wednesday, January 25, 2017 11:51 AM
To: Mitchell, Ken <Mitchell.Ken@epa.gov>
Cc: Russo, Todd <Russo.Todd@epa.gov>; Munsey, Elisabeth <Elisabeth.Munsey@dnr.ga.gov>
Subject: Emission Inventory Data for MSW Landfill State Plans (40CFR60 Sub Cf)

Ken,

This is a followup to our discussion in today's meeting of MSW landfill data required for the inventory portion of the state plan. My understanding is that 40CFR60.25(a) requires an emission inventory of the designated pollutant (NMOC) to be included in the state plan for each covered facility. In addition, Section 3.4 of EPA's 1998 MSW landfill state plan guidance speaks to the emission inventory.

Assuming that an emission inventory is required in the state plan, Georgia EPD is requesting clarification from EPA on approvable methods for calculating NMOC emission rates for the emission inventory requirement for state plans. I corresponded with Andy Sheppard by email regarding this but he did not answer this question.

"Are the annual NMOC emission rate calculations that are submitted for compliance (Tier 1, Tier 2, etc) acceptable for use in the state plan emissions inventory?"

A number of, but not all, facilities that are above the design capacity threshold for NMOC emissions rate have been required since 1998 to report their actual emission rates to Georgia EPD on an annual basis for compliance with 40 CFR 60 Subpart WWW. This is an easy way for us to provide accurate, up-to-date (2015 or 2016), and site-specific emission inventory data in the state plan.

I offer the following four points to support EPD's request to use the facility-reported data for the state plan emissions inventory. (1) The facility-reported data is based on the tier calculation required in 40CFR60 Subparts Cf, XXX, and WWW:

$M_{NMOC} = \sum_{i=1,n} 2kL_0M_i(e^{-kti})(C_{NMOC})(3.6 \times 10^{-9})$ Equation 1

Section 3.4.1 of EPA's 1998 guidance (EPA-456R/98-009) on MSW landfill state plans implies that either AP-42 or the tier method used for Subpart WWW compliance can be used for the emissions inventory. (2) Appendix D to 40CFR60 and 40CFR60.25(a) are the regulations, as opposed to guidance, that directly address emissions inventories in 111(d) state plans. Neither of these regulations specifies a method for emissions inventories. (3) When the 1998 guidance was published there was no existing emission data; now there is (4) Finally, note that 60.25(a) states that "… emission rates …. shall be correlated with applicable emission standards. As used in this subpart, "correlated" means presented in such a manner as to show the relationship between measured or estimated amounts of emissions and the amounts of such emissions allowable under applicable emission standards."

Please advise Georgia EPD on how to proceed. As you know, this will be an issue for other states in Region 4. Thanks for your help.

Bert Pearce

Planning and Support Program

Air Protection Branch

Georgia Environmental Protection Div.

404-363-7138