From: Don DiCristofaro
To: Braganza, Bonnie
Cc: sbulgrin@sandiapueblo.nsn.us; Boyce Huey
Subject: RE: Sandia information
Date: Friday, September 13, 2013 10:51:07 AM
Attachments: Sandia Casino Emissions Analysis 091313.xlsx

Bonnie,

For the kWh of the generators, I have the attached nameplate picture for the smaller Detroit Diesel and it confirms 1,000 kW not 1,250 kW in the original filing. The generator model is 1000DSEB. For the two large generators, I get the following from the spec sheet I supplied in the application: Detroit Diesel Model DDC 16V-2000, T1637K36-G80, which shows rated hp of 2935 at standby and 2,190 kW. For these two generators, I would use the spec sheet provided so I would recommend changing the 1,750 kW to 2,190 kW. **Scott – any idea where Joe Rodriguez got the 1,750 kW that he sent to Bonnie?**

I have asked Scott to try to obtain the emission spec sheet for the smaller Detroit Diesel engine.

For GHG, I used the EPA calculation methodology that is in the recordkeeping regulations. My tons are metric tons. Are yours metric tons? Also, I just noticed that for the smaller generator, I had the hp and kW input backwards in the spreadsheet. Attached is the revised spreadsheet.

For the engines, using AP-42 of 1.16 lb/hp-hr of CO2, I get: 7546 hp * 1.16 lb/hp-hr * 500 hours/yr / 2000 = 2,188 short tons of CO2. You are getting 1,393 so I think you are missing one generator.

Don

From: Braganza, Bonnie [mailto:Braganza.Bonnie@epa.gov]
Sent: Friday, September 13, 2013 10:30 AM
To: Don DiCristofaro
Subject: Sandia information

Here are some of the tables I have put in the draft permit and the GHG does not agree with the information on your spreadsheet. I used the AP- 42 factor for boilers as 120,000 lbs/SCF and the AP- 2 factor for generators as 1.15/bhp

Also, please let me know if this information is correct and the differences in KW from the actual engine to what you have on your spreadsheets, (message from Joseph Rodriguez). I needed this backup information for our records. I still used the BHP in the application but the KWH for the engines are much lower than what is indicated in the spreadsheets. The initial information was from the generators. Also I definitely need some data from Detroit Diesel on the smaller engine. Let me know if you can get this information. Thank you

Please give me a call

Table 1

Equipment	EPN*	Emission Limits in TPY[5]						
		NOx	SO2	$PM_{10/2.5}$	CO	VOC	GHG[2]	HAP
3 RICE Emergency Generators[1]	E1-E3	32.38	0.02	1.59	29.80	3.44	1393	0
17 Natural Gas-Fired Boilers[3]	B1& B2	13.26	0.08	0.48	11.14	0.72	15907	0
Diesel Storage tanks [1,4]	TK	-	-	-	-	<0.1	-	-
Total		45.64	0.10	2.74	40.94	4.16	17300	0

The KW was obtained from the facility itself- See below.

The permit covers the following pieces of equipment:

Equipment Type	Equipment identification number(EIN)	Construction date/Serial Number(SN) or Manufacturer's name	Capacity
2 RICE emergency generators (2000-2001) Detroit Diesel Model 1760D54 1750 KW	E1,E2	Serial # 0694871& 0694868	2935BHP
1 RICE emergency generator (2005) Detroit Diesel Model: GM30408 1000 KW	E3	Serial # 2033753	1676BHP
13 natural gas-fired boilers	B1	Lochinvar	2.1 MMBtu/hr each
4 natural gas-fired boilers	B2	Domestic Hot water boilers Lochinvar	0.99 MMBtu/hr each
Insignificant emission units			
3 Diesel Storage Tanks	D123	Diesel storage	1,000 gallons each

Bonnie Braganza P.E.
Air Permits
US Environmental Protection Agency
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********** ATTACHMENT NOT DELIVERED **********

This Email message contained an attachment named
image001.jpg
which may be a computer program. This attached computer program could contain a computer virus which could cause harm to EPA's computers, network, and data. The attachment has been deleted.

This was done to limit the distribution of computer viruses introduced into the EPA network. EPA is deleting all computer program attachments sent from the Internet into the agency via Email.

If the message sender is known and the attachment was legitimate, you should contact the sender and request that they rename the file name extension and resend the Email with the renamed attachment. After receiving the revised Email, containing the renamed attachment, you can rename the file extension to its correct name.

For further information, please contact the EPA Call Center at (866) 411-4EPA (4372). The TDD number is (866) 489-4900.

********** ATTACHMENT NOT DELIVERED **********

Braganza, Bonnie

From: Don DiCristofaro <DDiCristofaro@enernoc.com>
Sent: Monday, September 22, 2014 12:52 PM
To: Braganza, Bonnie
Cc: Joseph M. Rodriguez
Subject: RE: Draft permit and Technical Support Document
Attachments: Sandia Casino Emissions Analysis 091714.xlsx

Bonnie – Attached is a revised version of the emissions spreadsheet I sent you last week. In Tab 1, the total facility emissions in line 34 were not correct. I fixed it in the attached.

I am wrapping up the amendment filing to you and hope to send it out tomorrow.

Don

From: Don DiCristofaro
Sent: Wednesday, September 17, 2014 4:33 PM
To: 'Braganza, Bonnie'
Cc: 'Joseph M. Rodriguez'
Subject: RE: Draft permit and Technical Support Document

Bonnie,

Attached is my revised spreadsheet – you will see that I was doing some subtotaling to match your emissions in the permit.

Most states limit total use including emergencies to 500 hours per engine per year of which testing/maintenance is limited to 100 hours per engine per year. Some states (I can only think of one or two so far) though are now going with the NSPS and NESHAP that have 100 hours for testing/maintenance and unlimited use for true emergencies.

My problem is the total annual fuel use – is this outside of true emergency use? If so, then recalculating for 100 hours for E4 and E5 makes sense but a qualifier with that fuel use would help meaning it does not apply to emergencies.

Don

From: Braganza, Bonnie [mailto:Braganza.Bonnie@epa.gov]
Sent: Wednesday, September 17, 2014 4:27 PM
To: Don DiCristofaro
Subject: RE: Draft permit and Technical Support Document

Ok, I need to make that change for E4 and E 5 diesel usage , since I reduced the emissions from 500 hours to 100 hours. Is it possible for you to send me your excel spread sheet with these changes so that it will be easier for me. Also the totals.

We do not permit for emergency events unless they are predictable. Do you know if any other region does this. What is the basis for predicting a power outage? Also for emergency generators only for testing requirements, our rules typically limit them to 100 hours per year and even in our permits that we are currently writing.

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From: Don DiCristofaro [mailto:DDiCristofaro@enernoc.com]
Sent: Wednesday, September 17, 2014 3:20 PM
To: Braganza, Bonnie
Cc: Joseph M. Rodriguez
Subject: RE: Draft permit and Technical Support Document

Bonnie,

Attached are my comments on both the permit and technical document. Mostly my comments are minor. I try to make the documents consistent regarding generator model as opposed to engine model. I added the 3 additional diesel tanks that I learned about today. One thing I am not clear about is the total use of each engine including emergency operations. Engines 1 through 3 have a 500 hour total limit. The permit is silent for engines 4 and 5 – my interpretation is that there is a 100 hour testing limit but emergency use is unlimited. However, the 5 engines combined have an annual fuel use limit based on 500 hours. So are engines 4 and 5 limited to a total of 500 hours each?

Our emissions are off slightly for NOx, SO2, and CO for the two new generators – but they are pretty close. Our emissions are off by a fair amount for PM10 for Boilers 1-17. I did find an error in my emissions spreadsheet but when I fixed it I get 1.01 tpy of PM. You got 0.48 tpy.

Finally, since it is the intent to upgrade for NESHAP for the three older gens but it has not been finalized, can we use the following " to be modified to meet current emission standards of 40 CFR ZZZZ emission limits" in the equipment list table so if any of the older engines are not upgraded, the permit will not have to be modified?

The EH&S department of Sandia is also looking at the drafts.

Nice job Bonnie,

Don

From: Braganza, Bonnie [mailto:Braganza.Bonnie@epa.gov]
Sent: Wednesday, September 17, 2014 3:40 PM
To: Don DiCristofaro
Subject: Draft permit and Technical Support Document

Don: I needed to refine the conditions in the permit and make some corrections. So here is a cleaner version that will be sent to my management for review. Appreciate your comments.

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Braganza, Bonnie

From: Don DiCristofaro <DDiCristofaro@enernoc.com>
Sent: Tuesday, September 30, 2014 12:56 PM
To: Braganza, Bonnie
Cc: Joseph M. Rodriguez
Subject: RE: Sandia - Tanks
Attachments: Estimated Emissions from 12,000 Gal Tank - Sandia Casino.pdf

Bonnie,

Although I like the IEPA software for its ease of use, I am not sure what it is based on. The AQMD document was excellent so I made the calculations based on that.

The total loss from the 12,000 gallon tank is estimated to only be 0.18 tpy. See the attached as my backup.

I am working on your other requests. Regarding the three older generators, are you saying the emissions should be based on 300 hours (200 hours for DR and 100 hours for testing/maintenance)?

Don

From: Braganza, Bonnie [mailto:Braganza.Bonnie@epa.gov]
Sent: Monday, September 29, 2014 3:54 PM
To: Don DiCristofaro
Subject: RE: Sandia - Tanks

These are fixed roof tanks. Correct? Not sure if they are submerged fill?

Use AP -42http://www.epa.gov/ttnchie1/ap42/ch07/final/c07s01.pdf

It appears that the tank calculations are not a problem with AP-42. Or try using the attached document.

Also the TCEQ website has information as well. See the attached documents. You will need to calculate the emissions based on short term emission rates- The pumping rate to the tanks, the existing pump rate to the generators?

I believe it will be less than .1 tpy using this website, which EPA has not endorsed.
. http://www.epa.state.il.us/air/aer/calculate/tanks.html

Let me know if I can be of assistance

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From: Don DiCristofaro [mailto:DDiCristofaro@enernoc.com]
Sent: Monday, September 29, 2014 2:27 PM

To: Braganza, Bonnie
Cc: Joseph M. Rodriguez
Subject: RE: Sandia - Tanks

Bonnie – The estimated tank emissions is a problem. EPA no longer maintains the software TANKS which was how in the past I would calculate tank emissions. I would have to work through AP-42 which for tanks is no simple task. Do you have a workable version of TANKS? I tried to provide information in the filing that could be used to run TANKS. Don

---

From: Braganza, Bonnie [mailto:Braganza.Bonnie@epa.gov]
Sent: Monday, September 29, 2014 3:24 PM
To: Don DiCristofaro
Subject: Sandia

I did not see any estimate of tank emissions with the new additions. Please give me some estimate. Thank you. Does the total diesel fuel appear to be correct for all the tanks estimated at 457,812 gallons per year?

Don: Additional information request.

1. According to an email from Robert Rodriguez, the DR requirement is 200 hours per year per turbine. He had me correct it in the 2012 documents I sent him.

Also since they will only be used for 200 hours per year and 100 hours per year for testing, please adjust the emissions for these 3 engines. See attachment.
I cannot write a permit with hourly restrictions for testing and a contradictory emission level.

2. For the new NSR construction application, please fill out the current emissions and the allowable. The allowable will be based on testing and operations of 200 hours per year for the generators- or as indicated in the letter filed with EPA.
3. Are the PM emissions for each pollutant of PM, PM_{10}, and $PM_{2.5}$ or is it the total PM emissions?
4. What is the driver for the fuel pump? Electric Power or diesel ?

Thank you

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From:	Joseph M. Rodriguez
To:	Braganza, Bonnie; sbulgrin@sandiapueblo.nsn.us; frchaves@sandiapueblo.nsn.us
Cc:	Lanc McCravey; Tim Nichols; Adam Tolleson; Paul H. Bittner
Subject:	RE: Generator info
Date:	Friday, August 30, 2013 9:11:54 AM

Bonnie, the information on the application is correct with the following exceptions.

1. My EnerNoc DR Program maximum yearly operating hours is 200 per year not 100?
2. The fuel tank capacities for all generators is 1000 gallons each not 500?

Otherwise everything else is OK.

Joseph M. Rodriguez
CPMM, CFM, SBP
Facility Superintendent
Sandia Resort & Casino
505-796-7752 ofc
505-385-7144 cell
jmrodriguez@sandiacasino.com

From: Braganza, Bonnie [mailto:Braganza.Bonnie@epa.gov]
Sent: Thursday, August 29, 2013 4:03 PM
To: Joseph M. Rodriguez; Scott Bulgrin; Frank Chaves
Cc: Lanc McCravey; Tim Nichols; Adam Tolleson
Subject: RE: Generator info

OOPS. Please refer to the attached application, Attachment 3 had the specifications for the generator/engines. Please confirm if this model matches what you have provided me below and what is existing. I need to know if it is correct since the emissions were based on these estimates. Thanks so much and sorry for this inconvenience.

Bonnie Braganza P.E.

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From: Joseph M. Rodriguez [mailto:jmrodriguez@sandiacasino.com]
Sent: Wednesday, August 28, 2013 12:49 PM
To: Braganza, Bonnie; sbulgrin@sandiapueblo.nsn.us; frchaves@sandiapueblo.nsn.us
Cc: Lanc McCravey; Tim Nichols; Adam Tolleson
Subject: FW: Generator info

Bonnie,

Please refer to information provided below. I believe the error I made was to send the data from the generator side and not the engine side, now you have both. Sorry.

Joseph M. Rodriguez
CPMM, CFM, SBP
Facility Superintendent
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jmrodriguez@sandiacasino.com

From: Adam Tolleson
Sent: Wednesday, August 28, 2013 10:19 AM
To: Joseph M. Rodriguez
Subject: Generator info

Joseph

Here is the info I gathered from the generator engine plates

Thanks

Generator #1 1750 KW

Detroit Diesel Corp

Model # T1637K36
SO# 996751
L10311
Unit# 5272001057
Manufacture date OCT 2000

Generator #2 1750 KW

Detroit Diesel Corp

Model # T1637K36
SO# 996751
L11055
Unit# 5272001193
Manufacture date FEB 2001

Generator #3 1000 Kw

Detroit Diesel Corp

Model # R1637M36

Ser # S362003064

Manufacture date JAN 2005