



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 7

11201 Renner Boulevard
Lenexa, Kansas 66219

FEB 11 2015

Gary Buttermore
Air Permitting Section Supervisor
Nebraska Department of Environmental Quality
P.O. Box 98922
Lincoln, NE 68509-8922

RE: Ag Processing, Inc., Hastings Soybean Processing Plant draft Prevention of Significant Deterioration permit comments

Dear Mr. Buttermore:

On January 9, 2015, the United States Environmental Protection Agency (EPA) received notice from the Nebraska Department of Environmental Quality (NDEQ) of its intent to issue a Prevention of Significant Deterioration (PSD) construction permit to Ag Processing, Inc., Hastings Soybean Processing Plant (AGP), located at 2801 East 7th Street, Hastings, Nebraska. We have completed our review of the draft permit and have the following comments.

Comment 1.

Page E-1 of the draft permit states a permit limit of 70.1 tons per year (tpy) for NO_x for the two backup boilers (EP-18A and EP-18B) that were previously permitted as part of the AGP corn plant. The corn plant has been closed and the construction permit that limited these two boilers is no longer valid. NDEQ explains that the NO_x limit was established in a consent decree to meet a group NO_x limit. The consent decree has terminated, and as previously stated, the construction permit that contained the group NO_x limit is no longer valid. The two backup boilers must be considered as new equipment for the soybean plant under this construction project. Therefore, the two boilers and any other new or modified (transferred from the corn plant) equipment must be limited to less than 40 tpy of NO_x to avoid PSD review, or should undergo PSD review with associated BACT and modeling reviews.

The EPA also recommends that NDEQ evaluate carbon monoxide emissions and other PSD pollutants for the boilers and other new or modified emission units (including transferred equipment from the corn plant) to assure that these emissions remain below the appropriate significance thresholds for PSD review for this construction project, or otherwise go through PSD review.

Comment 2.

Pages 2 and 5 of the fact sheet attachment. The following emission unit is not listed in the permit but is identified in the fact sheet: EP-101, grain receiving; EP-105, cracking/dehulling/grinding; EP-204, grain storage bin #4; and EP-205, grain bin storage bin #5. These emission points should be listed in the permit or identified as removed emission units in the fact sheet.



Comment 3.

Page 3-4 of the application date stamped September 18, 2014. The following emission unit is not listed in the permit, but is identified in Table 3-1 of the application: EP-250, Pellet Cooler Cyclone (new). This table also identified EP-23 as the pellet cooler. Page 2 of the fact sheet attachment identifies EP-23 as a pellet cooler with CE-12: Cyclone as the control device. Page C-1 of the permit, Condition III.C(1) table identifies EP-23 Pellet Cooler as having control equipment CE 12: Baghouse. The modeled sources includes both pellet cooling and a cooler cyclone. Is the emission unit EP-250 identified in Table 3-1 of the application part of this construction project, or has it been either removed or identified as a different unit?

Comment 4.

Our modeling section has prepared comments regarding this permitting action, and due to the technical nature of modeling, the comments are in a separate enclosure with this letter.

As always, we appreciate the opportunity to provide what we hope you will find to be constructive comments. Please contact Patricia Scott at (913) 551-7312 if you have any questions or comments regarding this letter.

Sincerely,



for Mark A. Smith, Chief
Air Permitting and Compliance Branch
Air and Waste Management Division

Enclosure

Tables in section 3 of the “Air Quality Impact Analysis - AGP Soy - 72698.doc” indicate values associated with the “% Contribution of the Maximum Predicted Exceedance by AGP Project” were used in the annual increment evaluation. This wording seems to indicate that the NDEQ looked at the Maximum Predicted Exceedance and then calculated the % contribution from AGP for that maximum exceedance. I believe the intent of this table is to say that of all the receptors exceeding the increment the maximum contribution from the AGP project was some value below the SIL level. So for example, in 2009, 79 receptors were modeled over the PSD increment and the maximum contribution from the project to any of these 79 receptors was xxx ug/m3 which is yyy% of the SIL. In order to make the permit record clear can NDEQ please revise this table to convey that AGP contributions to all violating receptors were evaluated, not just contribution at the “Maximum Predicted Exceedance” values. Suggested revision would be to replace “% Contribution of the Maximum Predicted Exceedance by AGP Project” row with “Maximum AGP Project contribution to all exceeding receptors (ug/m3).” This same comment applies to the NAAQS table.

PM10 24-Hour And Annual Increment					
Number Of Receptors In Noncompliance In The “ALL” Source Group And the Highest Percent Contribution By The AGJ Project Emissions					
Year	2009	2010	2011	2012	2013
Number of Receptors Predicted to Exceed the 24-Hour PM ₁₀ Increment	79	89	63	65	70
% Contribution of the Maximum Predicted Exceedance by AGP Project	8.02%	9.46%	11.07%	9.9%	7.45%
% of SIL	48.6%	64.6%	71.4%	60.0%	50.2%
Number of Receptors Predicted to Exceed the Annual PM ₁₀ Increment	5	5	5	5	4
% Contribution by AGP Project	0.65%	0.49%	0.58%	0.51%	0.45%
% of SIL	11.0%	9.8%	10.0%	11.0%	11.0%

PM10 24-Hour NAAQS	
Number Of Receptors In Noncompliance In The “ALL” Source Group And the Highest Percent Contribution By The AGJ Project Emissions	
Year	2009-2013
Number of Receptors Predicted to Exceed the 24-Hour PM ₁₀ NAAQS	6
% Contribution of the Maximum Predicted Exceedance by AGP Project	1.53%
% of SIL	47.2%

Also note that in the increment modeling there appear to be sources associated with the expansion project that have been modeled as zero because they were being relocated. While the overall effect on total increment consumption is zero, these emissions sources should be counted as part of the project and therefore as part of the “% of SIL”. So, they are increment expanding for the overall area, but increment consuming for purposes of the project SIL evaluation. I believe these sources should be modeled as such. The sources potentially include...

- > SO SRCPARAM 9008 0 38.1 349.2611 18.288 1.92024
- > SO SRCPARAM 9008A 0 38.1 383.15 16.11419 1.7272

- > SO SRCPARAM 9008B 0 38.1 383.15 16.16964 1.2192
- > SO SRCPARAM 9009 0 38.1 322.0389 33.11957 0.762
- > SO SRCPARAM 9018A 0 24.384 438.15 24.16151 1.0668
- > SO SRCPARAM 9018B 0 24.384 438.15 24.1615 1.0668


Note it is difficult to tell if these sources are being repurposed but it appears that way from the CP072698f07.xlsx tab #2.

AGP Corn Repurposed
Emission Units

Emission Point ID	Description	Control Device	Emission Unit		Capacity	
1	Grain Receiving and Handling	CE-1: Grain Receiving Baghouse	CV-1101	Grain Truck Dump Pit #1	20,000	bu/hr
			CV-1102	Grain Elevator #1		
			CV-1103	Grain Truck Dump Pit #2		
			CV-1104	Grain Elevator #2		
			CV-1109	Conveyor #1		
			SC-1101	Scalper		
10	DDGS and Pellet Storage/loadout	CE-8: Baghouse	N/A	DDGS/Pellet Storage Building	250	ton/hr
			LP-2	Dump pit/conveyor		
			CV-1870	Bridge Conveyor		
			CV-1871	Loadout Conveyor		
18A	Backup Boiler #1	None	18A	Backup Boiler #1	200	MMBtu/hr
18B	Backup Boiler #2	None	18B	Backup Boiler #2	200	MMBtu/hr
22	Mill Feed Receiving	CE-11: Baghouse	22	Mill Feed Receiving	12	ton/hr
23	Pellet Cooler	CE-12: Cyclone	23	Pellet Cooler	22	ton/hr

Haul roads are modeled as volume sources and split between existing emissions and new emissions associated with the project expansion. Volume sources are the recommended way to characterize a haul road. Example volume source characteristics include:

Source Inputs

Source Type
 Type: **VOLUME** Source ID: **AGPRD122** 

Description: **SCAL_A to G** (Optional)

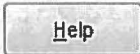















Source Location

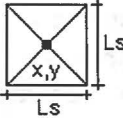
X Coordinate:	555875.70	[m]
Y Coordinate:	4493450.30	[m]
Base Elevation:	581.56	[m]
Release Height:	4.5	[m]

Source Release Parameters

Emission Rate:	0.000628	[g/s]
Length of Side:	26.66	[m]
Initial Lateral Dimension:	6.2	[m]
Initial Vertical Dimension:	4.2	[m]

Area [m²]: 710.8 7650.5 [ft²]



Following the EPA Haul Road Workgroup guidance document (http://www.epa.gov/scram001/reports/Haul_Road_Workgroup-Final_Report_Package-20120302.pdf) $RH=0.5*1.7*VH$. These inputs above would indicate a vehicle height of:

$$VH=4.5/.5/1.7 = 5.29 \text{ meters or } 17.4 \text{ feet.}$$

A vehicle height of 17.4 feet would exceed the legal vehicle height of 14.5 ft (4.42m) in Nebraska (see <http://www.transportation.nebraska.gov/rpt/pdfs/weights.pdf>). NDEQ should consider using a maximum release height of $0.5*1.7*4.42 = 3.76$ meters, which corresponds to the legal vehicle height in Nebraska. It should be noted that the release height (RH) is not equal to the vehicle height (VH).

In addition the maximum legal vehicle width in Nebraska is 8.5 ft (2.59 meters). Following the haul road guidance document the width of the plume would be $VW + 6m$ for single lane roadways or $Road\ Width + 6m$ for two lane roadways, which equates 8.59 meters for a single lane road. NDEQ is using 26.6 meters for the plume width indicating a road width of 20.6 meters or 67.6 feet. Haul roads 67.6 ft wide seem unlikely in this case. In addition, the two lane calculation is generally used for a heavily traveled divided road, which seems unlikely in this case.

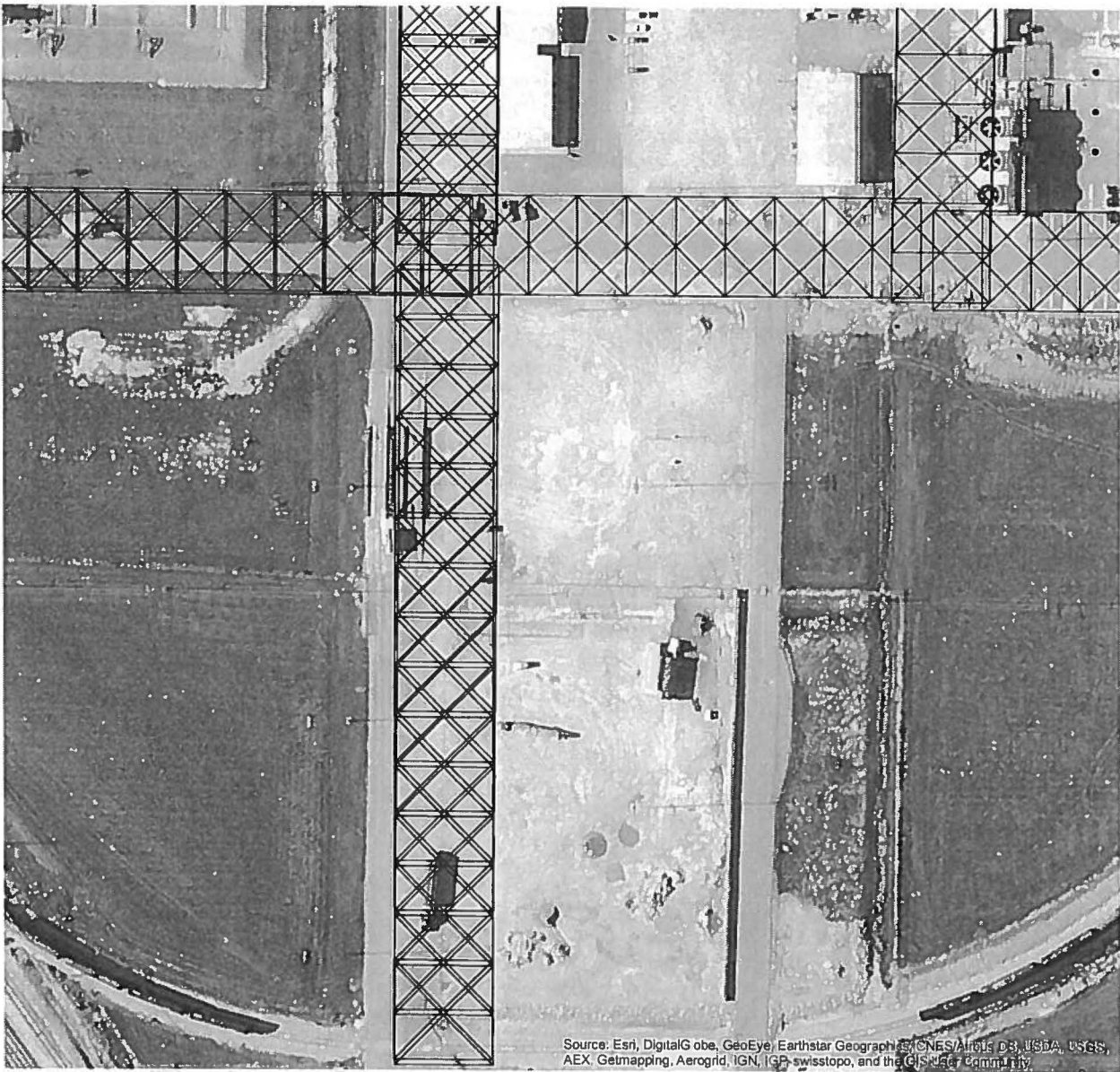
Finally, the initial lateral dimension appears to have been calculated by dividing the length of the side by 4.3. The 4.3 factor is used to represent a single volume source. In this case, for a haul

road, the volumes are being used to represent a line source, the road, and the initial lateral dimension should be equal to the length of the side divided by 2.15. This lateral dimension calculation can also be found in the haul road guidance document.

NDEQ should consider modifying the haul road modeling to conform to the Haul Road Workgroup final report.

You can see the wide haul road volumes in the image below. In addition, there are several areas of disturbed land that appear to be part of the operation that are not included in the modeling that may need to be further investigated or considered in the permit, at the South entrance and to the NW of the facility located within the fenceline (images below).





Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



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