pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

July 8, 2015

CERTIFIED MAIL NO. 9171 9690 0935 0033 0684 49

Mr. Wayne Black
Perdue Grain & Oilseed, LLC
PO Box 460
Lewiston Woodville, NC 27849

Re: Technical Deficiency Letter
Perdue Grain & Oil Seed, LLC
Plan Approval Application No. 36-05158A
APS ID #788415/AUTH ID #938531
Conoy Township, Lancaster County

Mr. Black,

The Department of Environmental Protection (DEP) has reviewed the public comments received regarding draft Plan Approval No. 36-05158A, and has determined that the application for that plan approval contains the technical deficiencies listed below, which need to be addressed prior to any final action on the application. As you are aware, a meeting has been scheduled with Perdue to discuss these items on Tuesday July 14, 2015, at 1 PM at DEP's Southcentral Regional Office. At the meeting, the DEP SC Regional Director will provide Perdue with a specified time frame to respond to the items noted below, in order to facilitate expeditious final action on the application.

Technical Deficiency Items:

1.) One public commenter has raised numerous reasons why incineration of process air from Perdue at the Lancaster Incinerator may be technically feasible. Some of these reasons may, at least superficially, have merit, and might require further responses from Perdue. Nevertheless, the gateway issue with regard to control at LCSWMA is whether LCSWMA would be willing to participate in such an arrangement. Please obtain a statement from LCSWMA on this topic. Further responses to the public comments about LCSWMA hexane control would only be needed if LCSWMA agrees to consider such an arrangement. [25 Pa. Code Sections 127.201(a), 127.205(1)]

2.) One public commenter has advanced numerous arguments in support of using an RTO to control the exhaust from the meal dryer and meal cooler. Of these, the gateway issue appears to be prefiltration. If, as asserted by Perdue, the sticky particulate in the dryer and cooler exhausts cannot be effectively pre-filtered from the RTO inlet, then the RTO would get clogged, making it

technically infeasible. The first hurdle, therefore, in evaluating RTO technical feasibility is to determine if any technology exists which would effectively pre-filter the RTO inlet. The possibilities are as follows [25 Pa. Code Sections 127.201(a), 127.205(1)]:

a.) Baghouse: Perdue has obtained a letter from Airlanco stating that a baghouse is not technically feasible for RTO inlet filtration, due to expected clogging with wet particulate. Nevertheless, Perdue also has a proposal from Nestec for a baghouse/RTO combination which seems to indicate that a baghouse is technically feasible. Perdue has stated on Page 55 of its 6/4/13 LAER analysis that "*Nestec would not guarantee the system would remove all of the fine particulates. Instead, Nestec recommended that Perdue conduct a pilot test of this bag house design and the protein meal particulate to determine the consistency and efficiency of the bag house to work under the difficult constraints of the waste stream.*" DEP is unable to locate written documentation submitted by Perdue to support this assertion. Please provide such documentation, or state why it is not available.

b.) Baghouse: One public commenter has asserted that PTFE bags are hydrophobic, so they do not collect moisture and they have very low co-efficients of friction (0.05-0.1), which means particles have a very difficult time sticking to them. Please investigate/explain specifically whether PTFE bags would be technically feasible for RTO prefiltration.

c.) Scrubber: Perdue has asserted that a scrubber is not physically capable of reducing the particulate in the air stream sufficiently to prevent RTO plugging problems. Nevertheless, Perdue has not provided independent verification of this. Please provide a statement from at least one scrubber/RTO manufacturer verifying that a scrubber is physically incapable of prefiltering particulate sufficiently to allow for acceptable RTO operation.

3.) In the event that particulate prefiltration proves technically feasible, the next gateway issue for an RTO is moisture in the exhaust of the dryer/cooler. Perdue seems to argue that, even in the absence of particulate in the exhaust, the presence of excessive water alone would render an RTO infeasible. One public commenter has raised the following arguments as to why this is not a problem, which Perdue needs to answer [25 Pa. Code Sections 127.201(a), 127.205(1)]:

- As long as the RTO is operated above the dew point temperature of the exhaust gas (and this is a component of good operating practices) water will not "plug" an RTO.
- RTOs are demonstrated to work in other industrial applications such as ethanol, biofuels, and food processing, which would have similar high moisture streams.
- Perdue listed a very high moisture loading in their waste stream characterization for the Nestec proposal. Nestec addressed this issue by insulating the inlet manifold, using 304 Stainless Steel, and "designing-in" ease of cleaning of the inlet manifold and the cold-face support grids. Please explain why these modifications would not address the moisture issue.

4.) Perdue has asserted that "*Most RTOs are designed for a waste gas no richer than 25% of the LEL, which would make design of an effective RTO difficult because of the variable nature of the solvent recovery processes and exhaust stream.*" One public commenter has stated that "*The data presented in the Perdue application do not support this concern. Based on the flows of the three captured waste streams and the estimated emissions in the revised application, the concentrations of the extraction process final vent, the meal dryer, and the meal cooler would be 0.026%, 0.004% and 0.002%, respectively. The LEL for hexane is 1.1% and the safety factor of 25% of that value yields a level of concern of 0.275%. All of the three streams individually are at the very least, a factor of 10 below that.*" Please explain why the commenter's assertion is or is not correct. [25 Pa. Code Sections 127.201(a), 127.205(1)]

5.) Please specifically respond to the assertions of one public commenter, made immediately following the assertion in the previous item, that "*Additionally, as is Perdue's approach to issues of control, they focus on the individual stream that is most favorable to their argument and ignore the others. The solvent extraction gas stream represents only 7.2 tons of the 82.9 tons represented by the three captured streams.*" [25 Pa. Code Sections 127.201(a), 127.205(1)]

6.) Please specifically respond to the assertions of one public commenter, made immediately following the assertion in the previous item, that "*Additionally, if all three streams were combined, the average concentration would be nearly 100 times below the 0.275% level of concern. If Perdue is allowed to throw out incineration based on these data, it would be technically infeasible in any subsequent application ever evaluated.*" [25 Pa. Code Sections 127.201(a), 127.205(1)]

7.) Perdue has asserted that "*A less frequent RTO failure mode results from the build-up of condensed organic particles on the cold inlet surfaces of the RTO or incinerator. Build-ups in these areas can result in performance failures due to poor valve sealing or more extreme failure due to uncontrolled fires.*" In response to this, one public commenter has stated "*Indeed. That is why one would 1) control the particulate in the exhaust stream prior to the RTO and 2) bring the RTO up to temperature before starting the process so that organic particles do not condense on cold inlet surfaces. The RTO should operate at 1400 °F or above to minimize these issues. This is just good operating practice.*" Please explain why the commenters two suggestions would or would not address the difficulty raised by Perdue. [25 Pa. Code Sections 127.201(a), 127.205(1)]

8.) With regard to the use of a wet ESP for particulate control prior to an RTO, one public commenter has asserted that "*Similarly, [Perdue's] argument that they could not transport 239 tons of water per day 6 miles to a treatment plant does not meet the technical infeasibility argument required for LAER. That's 6 tankers a day and that needs to be compared to the 842 trucks a day that Perdue claims would be moving materials to and from the plant during the peak month of operation. The transport of the waste water would be insignificant compared to the transport of feedstock and product. Secondly, there is already a pipeline delivering treated*

water from the Elizabethtown POTW to the plant and Perdue plans to use 300,000 gallons per day of this water. It would not be technically infeasible to return 60,000 through a parallel pipeline." Please specifically respond to why these assertions are, or are not correct. As an alternative to addressing these issues, Perdue may choose to refine other arguments it may have advanced in opposition to the use of an wet ESP. If a wet ESP is compellingly shown to be technically infeasible on other grounds, it may not be necessary for Perdue to address the issues noted above. [25 Pa. Code Sections 127.201(a), 127.205(1)]

9.) Please specifically respond to the assertion of one public commenter that "*Go back up and look at the list of demonstrated technologies for RTOs. Now convince yourself that the Perdue process is so much less steady state than any of these processes, including, as one example, chemical batch processing, that it renders the technology non-transferrable. (Taxing the credulity of the credulous.)*" [25 Pa. Code Sections 127.201(a), 127.205(1)]

10.) One public commenter has asserted that "*start-ups and shutdowns should not result in increased VOC emissions. Under the solvent extraction NESHAP, Perdue would be required to implement a start-up, shutdown and malfunction plan to minimize emissions during those events. An expected component of that plan would be that the RTO is brought up to temperature with auxiliary fuel prior to startup of the process and that during a shutdown, auxiliary fuel would be used to keep the RTO at peak operating conditions until the process was safely shut down. With these provisions implemented, increased downtime would actually reduce the amount of VOCs emitted.*" Please explain why the commenter is or is not correct in these assertions. [25 Pa. Code Sections 127.201(a), 127.205(1)]

11.) In the event that particulate and/or water in the exhaust do not preclude an RTO, Perdue has argued (in the past) that safety concerns alone would still preclude its use. Nevertheless, DEP reads Perdue's 6/4/15 responses to the Osman Environmental comments to concede that safety concerns, although significant, do not definitively preclude installation of an RTO at a soybean processing facility. See, for instance, Perdue's response to Public Comment 126 "*NFPA-36 8.2.8 does allow flares as long as they are outside the controlled area (over 100 feet away) and they have a flash back protection (flame arrestor and automatic valves to divert flow in case of high LEL).*" Nevertheless, Perdue as asserted verbally to DEP since then that safety concerns are still a deciding argument against an RTO. Please clarify how this is so, in light of Perdue's response to Comment 126. [25 Pa. Code Sections 127.201(a), 127.205(1)]

12.) Perdue has asserted that in addition to safety concerns, the rapidly varying concentrations of hexane in the inlet will cause RTO operational problems, or may cause the need for temporary bypasses of the RTO. Nevertheless, one public commenter points out that rapidly varying VOC concentrations are routinely controlled by RTO's. A feedback loop is used to monitor RTO temperature and supplementary fuel is fired to maintain that temperature. The commenter further notes that "*We do not mean to minimize the significant issue of explosion hazards in RTO's. This*

is a real issue. However RTO suppliers are fully capable of evaluating these risks and designing systems to address them. Perdue cannot just raise a concern of explosion and refuse to seriously investigate the issue." Please explain why Perdue cannot utilize electronic RTO controls as suggested by the commenter to avoid operational or safety problems or bypasses. [25 Pa. Code Sections 127.201(a), 127.205(1)]

13.) Please also explain the specific situations when RTO bypasses might occur, how long the incidents might last, what the expected emissions might be during such incidents, and why such bypasses would be unavoidable. [25 Pa. Code Sections 127.201(a), 127.205(1)]

14.) One public commenter asserts that in a September 28, 2000 memo from Alpha- Gamma Technologies submitted to the EPA docket on the NESHAPS and entitled "Final Model Plant Cost Estimates for Above the MACT Floor Control Techniques, the following statement is made: "*When using combustion devices to destroy flammable compounds in an emission stream, it is important to minimize possible fire hazards. Many insurance companies require dilution air to reduce the concentration of flammable vapors in an emission stream to 25 percent of the lower explosive limit (LEL) of the flammable compound. The predominate solvent used in vegetable oil extraction plants is a commercial grade of hexane, which is comprised of n-hexane (64 percent) and isomers of hexane (36 percent). The LEL of n-hexane in air is 1.2 percent by volume. It is assumed the LEL of n-hexane would also apply to the isomers of hexane. The potential concentration of hexane vapors (n-hexane and isomers) in the combined meal dryer and cooler exhaust was determined and compared to the LEL for hexane. Based on the selected model parameters, the hexane vapor concentration in the combined meal dryer and cooler vent exhaust ranged from 0.3 to 1.0 percent of the LEL for hexane. Thus, dilution air is not required for any of the model exhaust streams.*" The commenter goes on to assert that "*Perdue's own data show that their combined exhaust would be at the lower end of this range slightly below 0.3%.*" Please explain why the commenter is, or is not correct in this assertion. [25 Pa. Code Sections 127.201(a), 127.205(1)]

15.) In past responses to comments about safety issues with VOC incineration devices, Perdue has raised concerns that "*Combusting a lot of natural gas to burn hexane vapor in normal vent gas does not decrease emissions: it only changes the emission profile.*" DEP does not perceive this argument to be relevant to safety concerns, or to the determination of LAER. Please either acknowledge that this argument is not relevant to these issues, or else explain why "*changing the emission profile*" would be relevant to 1.) safety concerns or 2.) the establishment of LAER for VOCs. [25 Pa. Code Sections 127.201(a), 127.205(1)]

16.) Even if an RTO is deemed technically feasible, Perdue has argued that it would be economically infeasible, and has provided a detailed cost analysis. Certain issues regarding the cost analysis require further answers from Perdue [25 Pa. Code Sections 127.201(a), 127.205(1)]:

- One public commenter (Osman Environmental) has asserted that the calculated cost per ton of VOC control related to the Nestec proposal should initially be doubled, prior to questioning any of its underlying assumptions, based on a calculation error(s) by Perdue. DEP realizes that the commenter did not clearly specify where the error(s) were. Nevertheless, since the alleged error(s) were in Perdue's favor, DEP requests that Perdue specifically respond, to the extent that Perdue can determine the commenter's intent, as to whether or not they agree with the commenter's assertion. Please revise the cost analysis as needed based on the proposed answer to this question.
- The cost analysis included $1.2 million to construct a natural gas pipeline to the facility to run the RTO. Please investigate/explain whether any alternative RTO fuels such as propane are available to run the RTO, that would not require a pipeline, and which would therefore potentially reduce the cost. Please revise the cost analysis as needed based on the proposed answer to this question.
- Perdue included in its cost analysis, a line item of $884K for RTO cleaning, based on experience with a problematic RTO at a different, non-soybean facility. DEP preliminarily disagrees with the inclusion of this cost, because the need for expensive RTO cleaning should be addressed as a technical feasibility concern, rather than a cost concern. Please revise the cost analysis accordingly.
- One commenter has asserted that the $126,000 maintenance charge assigned from the EPA manual is inappropriate because "*A lost production cost, while important in the overall feasibility of a project, is recognized under the EPA Air Pollution Control Cost Manual only for retrofit facilities and only for shutdown to initially install the facilities, not as an ongoing operational cost.*" Please explain why the commenter is, or is not correct in this assertion, and revise the cost analysis accordingly based on the answer.
- As an alternative to addressing the above three issues, Perdue may choose to refine other arguments it may have advanced in opposition to the use of an RTO. If an RTO is compellingly shown to be technically infeasible on other grounds, it may not be necessary for Perdue to address the cost issues noted above.

17.) In the event that responses to any of the questions noted above (or below) reveal that a particular reason advanced by Perdue for technical infeasibility of any control option is invalid or uncompelling, please review and revise any other remaining arguments against that particular control option to show whether or not the conclusion about technical infeasibility is still valid. If it is not, and if Perdue believes arguments exist showing the economic infeasibility of that particular control option, then please either advance or refine those arguments as needed. [25 Pa. Code Sections 127.201(a), 127.205(1)]

18.) In its responses to comments dated 6/4/15, Perdue raises two objections to biofilters, as follows, which are not sufficiently specific [25 Pa. Code Sections 127.201(a), 127.205(1)]:

- Perdue asserts that the biofilter bed volume required to provide even a few seconds of residence time would be "prohibitively large." Please provide a numeric value for bed volume, and explain why that numeric value is prohibitively large in terms of the specific facility location chosen by Perdue.
- Perdue asserts that optimal biofilter destruction requires a retention time of between 30 seconds to 2 minutes; a period of time that would be far longer than would be available in soybean solvent extraction application. Rather than using the term "far longer", Perdue needs to calculate and provide a numeric value, with justification, for the maximum retention time physically available bed retention in a solvent extraction application.
- As an alternative to addressing the above two issues, Perdue may choose to refine other arguments it may have advanced in opposition to the use of biofilters. If biofilters are compellingly shown to be technically infeasible on other grounds, it may not be necessary for Perdue to address the two biofilter issues noted above.

19.) Add-on controls such as a biofilter could be evaluated on a source-by-source basis, rather than on combined air streams. In particular, please explain why a biofilter would or would not be technically feasible on the low exhaust volume air stream coming specifically from the mineral oil scrubber. [25 Pa. Code Sections 127.201(a), 127.205(1)]

20) Perdue has argued that an exhaust temperature of 140oF from the meal dryer could kill the microbes in a biofilter. Yet one public commenter points out that the data on the combined exhaust streams evaluated for possible control in the Lancaster Incinerator indicate that the three streams together would be no higher than 96oF. Perdue's response to this is that the meal dryer/cooler exhaust temperature varies not only with (internal) process conditions, but also external conditions such as ambient air temperature and humidity. Please clarify how often and for how long 140oF exhaust temperatures would be likely to occur, and in light if this, whether these temperatures would still preclude use of a biofilter. [25 Pa. Code Sections 127.201(a), 127.205(1)]

21.) Perdue has asserted in its LAER analysis (Page 39) that "*Carbon adsorption systems were applied rather widely to the final vent emissions stream from solvent extraction plants in the late 1940s and early 1950s.*" This would appear to show that carbon adsorption is a technically feasible (albeit perhaps inferior) control technology. Please more specifically answer why any or all of the various adsorption technologies, carbon or otherwise, are truly technically infeasible, rather than just technically challenging or undemonstrated. In a related matter, please provide a statement from one or reputable adsorption vendors, potentially for various types of adsorption media, stating that the Perdue gas stream does not lend itself to control by that technology. [25 Pa. Code Sections 127.201(a), 127.205(1)]

22.) Please clarify how safety concerns for adsorbers would differ from those for RTOs. This is because, per item 4 above, DEP believes that Perdue has conceded that safety concerns, although

significant, do not definitively preclude installation of an RTO at a soybean processing facility. [25 Pa. Code Sections 127.201(a), 127.205(1)]

23.) One public commenter has asserted that Perdue should implement "enhanced LDAR" as LAER, as modeled in certain EPA consent decrees. Please explain why "enhanced LDAR" is or is not appropriate as LAER for the proposed Perdue facility. [25 Pa. Code Sections 127.201(a), 127.205(1)]

24.) One public commenter (Osman Environmental) has asserted that Perdue should employ of specific valve/connector design at the facility as LAER to minimize fugitive emissions. Please specifically address the points raised, as follows [25 Pa. Code Sections 127.201(a), 127.205(1)]:

- Requirement of rupture disk assemblies rather than pressure relief valves
- Requirement that valves be of the sealless design
- Requirement that connections be welded rather than flanged, to the extent possible without interfering unreasonably with operation or maintenance
- Requirement that any open-ended lines must have a dual valving system with the second valve blinded, capped, or plugged
- Requirement that any sampling connections must employ closed-loop sampling

25.) One public commenter (Osman Environmental) asserts that with certain proposed valve/connection design modifications, Perdue "*should be capable of reducing equipment leaks from the currently unacceptable 16.5 tpy to de minimis amounts.*" Please attempt to specifically explain, to the extent that Perdue can discern the commenter's reasoning, why the commenter is either correct or incorrect in this assertion. [25 Pa. Code Sections 127.201(a), 127.205(1)]

26.) One public commenter asserts that capture and RTO control are technically feasible for the 81.63 tons of hexane fugitives expected to be emitted from Meal Handling, based on Perdue's stated air flow requirement of 28,800 acfm. The same commenter also opines that capture of the air stream would increase the rate of volatilization of the hexane from the meal, and that vacuum evacuation of the meal would even increase this process. In opposition to this, Perdue previously raised 1.) fire/safety concerns, and 2.) a general assertion that fugitives are only released gradually from the meal. Please specifically explain these concerns [25 Pa. Code Sections 127.201(a), 127.205(1)]. In particular:

- Why are the fire/safety concerns with capture of the meal fugitives specifically different or more compelling than those for the RTO. Per item 4 above, DEP believes that Perdue has conceded that safety concerns, although significant, do not definitively preclude installation of an RTO at a soybean processing facility?

- What is the numeric rate at which hexane is released from the meal, at what locations does this occur, and how specifically does this render RTO (or other) control technically infeasible at any of those locations?
- If much of the hexane from the meal is not released until the meal is shipped offsite, ought not Perdue revise its application to be reflective of actual hexane emissions at the site? In asking this question, DEP is cognizant that all of the hexane is, and must be, accounted for in the SLR calculations for the facility. But a separate and unrelated question, which may be relevant for other regulatory purposes, is what are the actual expected emissions from the site, unrelated to the SLR issue.

27.) Perdue's application lists 26.87 tons per year of fugitive hexane emissions from the crude soy oil after treatment of the oil in the oil stripper, but does not investigate any control options for these residual emissions. Please either do a control technology evaluation for this source, or else (if much of the hexane from the oil is not released until the oil is shipped offsite) then consider revising the application to be reflective of actual hexane emissions at the site. DEP is cognizant that all of the hexane is, and must be, accounted for in the SLR calculations for the facility. But a separate and unrelated question, which may be relevant for other regulatory purposes, is what are the actual expected emissions from the site, unrelated to the SLR issue. [25 Pa. Code Sections 127.201(a), 127.205(1)]

28.) A public comment has questioned whether activities at the existing Perdue Marietta facility will be affected, or will increase, as a result of synergies with the proposed Perdue Bainbridge facility. Please provide information showing whether or not the existing Perdue Marietta facility does or does not meet the regulatory test for aggregation with the proposed Perdue Bainbridge facility. [25 Pa. Code Section 121.1]

29.) A public comment has questioned whether stack testing once every five years provides sufficient practical enforceability for the VOC stack emission limits on the main vents for the meal dryer, meal cooler and extraction process. The commenter suggested that DEP require a "VOC CEMS". DEP has not yet concluded that this is appropriate, especially given that no other emission source in PA is currently required to have a VOC CEMS. Please propose a means of making "practically enforceable" the VOC stack emission limits on main vents for the meal dryer, meal cooler and extraction process. [25 Pa. Code Sections 127.201(a), 127.205(1), 127.12(a)(3)]

30.) Please submit the revised PNDI and responses from the regulating authorities. [25 Pa. Code Section 127.12(a)(2)]

31.) Please submit an updated compliance review form. [25 Pa. Code Section 127.12(a)(2)]

32.) Please respond specifically to the following public comment received by DEP, especially with regard to the assertion that 0.01 grains/dscf is achievable for the meal dryer and meal cooler vents: *"And let's look at BAT a little further, shall we? Perdue's proposed emissions from the meal cooler and the meal dryers are compared to the original Prairie Pride permit application as follows: Perdue; 1,400 tpd soybeans, 43.12 tpy dryer PM emissions, 45.51 tpy cooler PM emissions; Prairie Pride; 2,000 tpd soybeans, 0.8 tpy dryer PM emissions, 0.85 tpy cooler PM emissions; Perdue; 1,400 tpd soybeans, 43.12 tpy dryer PM emissions, 45.51 tpy cooler PM emissions; Ration Perdue/PP, 0.71 soybeans processed, 44.3 dryer PM emissions, 44.0 cooler PM emissions. The two factors together (Prairie Pride revised PM emissions, and size comparison of the two facilities) suggest that the Perdue request results in nearly eight times higher emissions than does the installed Prairie Pride project and that a BAT emission level of 0.01 gr/dscf is in fact achievable."* [25 Pa. Code Section 127.12(a)(2)]

33.) Please specifically explain why DEP should or should not impose as BAT for the meal dryer or meal cooler, the emission limits described in the following public comment received by DEP: *"An additional indication of the total unacceptable level of particulate emissions from the cooler/dryer exhausts in the Perdue plan is found in a PSD permit issued in August 2006 for a soybean processing and oil extraction plant in Kansas City, MO. This permit was for a facility designed to process up to approximately 6,600 TPD of soybeans. The facility has 5 meal/dryer cooler cells. The first two cells are controlled by a scrubber with a combined PM-10 emission limit of 0.005 gr/dscf. The three final cells are controlled by cyclones with PM-10 emission limits of 0.007 gr/dscf."* [25 Pa. Code Section 127.12(a)(2)]

34.) Please specifically explain why DEP should or should not impose as BAT for the meal dryer or meal cooler, the emission limit described in the following public comment received by DEP: *"A draft permit issued by Nebraska DEQ in May 2014 (Permit Number CP14-007) employs wet scrubber technology to limit PM and PM10 emissions to 0.0025 gr/dscf."* [25 Pa. Code Section 127.12(a)(2)]

35.) Please specifically respond to the assertion of one public commenter (Osman Environmental) that *"is absolutely clear from the documents provided by Perdue that they gave Nestec the unlawful particulate loadings in their application as inlet design values for the Nestec system."* As background to this comment, the same commenter also asserted that *". . . using the projected emissions in the application of 10.62 lbs/hr and 11.21 lbs/hr, again respectively [for the meal dryer and meal cooler], the emissions are calculated to be 0.072 gr/dscf and 0.064 gr/dscf. For low flows such as these, DEP regulations limit emissions to 0.04 gr/dscf."* [25 Pa. Code Sections 127.201(a), 127.205(1)]

36.) Depending on Perdue's answers to the above issues, please provide a revised version of the Nestec proposal using a more appropriate inlet particulate loading to the RTO and/or particulate

control device, or else explain why such a revision is unnecessary. [25 Pa. Code Sections 127.201(a), 127.205(1)]

37.) Please verify the moisture contents & dry standard cubic foot (dscf) airflows for the following sources [25 Pa. Code Section 127.12(a)(2)]:

-Source ID 202, Bean Conditioning
-Source ID 203, Flaking Rolls
-Source ID 204, Extraction Process
-Source ID 205A, Meal Dryer
-Source ID 205B, Meal Cooler

38.) Based on the dscf values provided above for 205A/205B, coupled with whatever grain/dscf limits are finalized for those sources, the facility wide PM limit will be adjusted accordingly. Please propose a revised facility PM limit based on this, keeping in mind issues raised above regarding the grain/dscf limits. [25 Pa. Code Section 127.12(a)(2)]

39.) In response to public comments regarding the hexane risk assessment, DEP has determined that it is necessary to incorporate VOC lb/hr limits into the plan approval for LAER, for the three vents that already are proposed to have VOC lb/ton of soybean limits. The values determined by DEP are based on operating 8,760 hr/yr since this timeframe was used for air modeling, and are as listed below. Please provide Perdue's evaluation regarding the appropriateness and accuracy of these proposed limits [25 Pa. Code Section 127.12(a)(2)]:

Source ID 204, Extraction Main Vent = 1.65 lb VOC/hr
Source ID 205A, Meal Dryer = 11.51 lb VOC/hr
Source ID 205B, Meal Cooler = 5.76 lb VOC/hr

40.) Please state whether Perdue believes that the proposed equipment is expected to be physically capable of meeting the proposed lb VOC/hr limits, above, on a continuous basis, including during periods of initial plant shakedown, and/or normal startup, shutdown and/or malfunction (please answer each of these four scenarios separately for each of the three affected vents, 204, 205A and 205B). If Perdue believes there may be time periods when these limits cannot be met, please state their likely duration and the likely magnitude of the emissions during those time periods. Please also respond to the following comment from Osman Environmental in the context of this issue: "*There are also significant issues relative to the practical enforceability of these limits. DEP is requiring a once every 5-year stack test on the three sources for which they have established emission rate limits. Perdue actually requested that LAER be established on a facility-wide basis, contrary to law, based on the "variability of the process." Perdue also stated: The vegetable oil industry has experienced fluctuating facility-wide VOC emission rates over time at existing, well-established facilities, even where there have been no changes in*

facility equipment, operational staff, or other known parameters impacting VOC emissions. These VOC emission rate fluctuations could be attributed only to soybean shipments of varying quality. Perdue also included a chart in their application showing variations of SLR of as much as a factor of 3.5 from one month to the next, based on (they allege) the quality of the soybeans processed. So Perdue's own data establish, beyond any doubt, that a once every 5-year test does not provide practical enforceability." [25 Pa. Code Section 127.12(a)(2)]

41.) In a letter dated 4/10/15, Perdue's counsel stated that "*COMMENT 4: Section E, Source Group Plan Approval Restrictions; Group 5, LAER Requirements, Page 72-73, Condition #003 & Condition #007: Pursuant to the LAER determination, the n-hexane concentration of the extraction solvent must not exceed 50%, by weight. Perdue is required by Condition #007(b) to, inter alia, record the n-hexane concentration by weights for each delivery of the solvent: the name and address of the solvent supplier, the type of solvent including the product or vendor identification number, and the n-hexane concentration, by weight. Although Perdue Agribusiness will utilize a 45% n-hexane product for this facility, the typical n-hexane concentration by weight of this solvent can range from 44-52%. To account for variations in the n-hexane concentration, Condition #003 should be modified to provide that a solvent labeled 45% n-hexane must be utilized.*" DEP is considering to accede to this comment, but also to add a new provision imposing a facility solvent n-hexane content limit of 50% by weight, based on a 12-month rolling average. Please provide Perdue's evaluation regarding the appropriateness and accuracy of this proposed limit [25 Pa. Code Section 127.12(a)(2)].

Sincerely,

Brian Wetzel
Air Quality Permitting

cc: SCRO, 36-05158A, B.1
Lancaster District
Permits