

From: agforensic@aol.com
To: [Jennings, Jonathan \(ECY\)](#)
Subject: Formal Comment on Draft ECY CAFO permit
Date: Friday, October 02, 2015 1:48:49 PM
Attachments: [ECYDraftCAFOPermitCommentSATURNER.pdf](#)

Mr. Jennings,
Please find following my 12 pages of comments on the first DRAFT CAFO ECY permit. I am hoping that we can have the opportunity to work more closely together to make the second draft closer to a functional document.

Best Regards,

Stu Turner, CPAg, CCA
Turner & Co., Inc.

Turner & Co., Inc.

STUART A. TURNER

5903 Kilawea Dr.
West Richland, WA 99353

Phone: (509) 967-0460
Fax: (509) 967-5865
Mobile: (509) 539-5524
E-mail: agforensic@aol.com

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Via FAX 360-407-6426 and email: jonathan.jennings@ecy.wa.gov

Mr. Jon Jennings
Washington State DOE
P.O. Box 47696
Olympia, WA 98504-7696

Re: Comments on DRAFT CAFO PERMIT

Dear Mr. Jennings,

Please find following some of my thoughts and comments on the DRAFT CAFO permit as proposed by your agency, Washington State Department of Ecology. These comments are in order from the first page forward for your ease of correlation, and are intended to simplify, improve and make the proposed permit both obtainable and adaptable to the agricultural family businesses that are directly affected. These comments are also intended to more broadly to make the possible benefits to the general population at large, through water quality improvements over time, more likely to be real and sustainable. The CAFO agricultural community in Washington State has an unchallenged record of leadership for many years as the progressive and committed part of the agricultural community as it pertains to air, water and soil quality. The strong support given to the crafting, adoption, and implementation of the 1998 Dairy Nutrient Management Act (RCW 90.64) is but one good example of this support and leadership consistently provided by CAFO/Dairy operators in this state.

Overview Comments

Washington State is a uniquely diverse state, naturally divided "West -Wet" and "East-Dry" climates as a result of the North to South Cascade mountains. In Whatcom County on the West side, average annual rainfall is around 60"; The average East side facility is located in a rainfall zone of 8-10" annually. DOE should recognize this obvious, dominating climate factor and develop separate permits, one for the West Side, one for the East Side since the physical operations and challenges are so diverse.

Technical information - broadly defined as well accepted, published and peer reviewed science able to pass a Federal Court "Daubert" test should be the ONLY source of information relied upon by DOE in forming a CAFO (final) permit. This same definition of reliable science exists in many forms, formats and locations, but is most generally available through journals published by the Tri-Societies (American Society of Agronomy, Soils and Crop Science), Land Grant Institutions (WSU, OSU, U of I), and the very extensive set of NRCS Standards and Practices. The latter contains specific, peer reviewed, updated every 5 years recommended BMP's on a very wide variety of key design and management practices and standards directly related to environmentally safe and compliant CAFO design, build and



operations. The body of technical research which supports these NRCS Practices and Standards is without peer, and clearly establishes the very best and highest available science for CAFO's. I strongly recommend that ALL references to "AKART" be DELETED from the draft CAFO permit language, and instead substitute the readily available NRCS Standards and Practices, with a supporting role by the Land Grant Institutions Extension Bulletins. You may wish to go further into detail, and list specific Practices by Number and Name - for example the NRCS 590 Standard, which covers the important area of Nutrient Management. The problem from both a producer and enforcement agency perspective with the current proposed language using the AKART standard is that this is a very poor system open to widely divergent views about what is "Available"; what is "Known", and especially what is "Reasonable". Use of this term is a direct fast lane to litigation to try and define that which is not really definable in the AKART. Why in the world would you default to this difficult "non definition - definition" when there is a strong, Federal base well defined in each technical area available to you via the NRCS Standards and Practices? It is an unconscionable waste of very limited practices to plan to use AKART when it is CERTAIN to be challenged by both producers and activist groups with a history of litigation on water quality enforcement issues.

Comments, In Order on the DRAFT CAFO Permit

Page Four - Permit Condition G18 - Renewal Notice of 180 days is EXCESSIVE. This should be reduced to one quarter, or 120 days.

Page Five, S1.A Change the language to read as follows (emphasis added) This statewide general permit covers activities associated with operating a concentrated animal feeding operation (CAFO) (strike the words "that result", and insert) **that may** result in a discharge of pollutants to waters of the state..." To my knowledge, DOE does not possess any studies peer reviewed, scientific relating to any currently operating CAFO/Dairy sites which show such discharges to waters of the state are in fact currently occurring. While it is likely that very small amounts of contaminants could be discharging, the courts have been consistently recognizing and applying a "de minimus" standard which says essentially these discharges are either so small or so small and infrequent as to not constitute a legally actionable amount. DOE should recognize this, and change the wording as suggested above to more accurately reflect actual field operational conditions. To proceed with the current proposed language is to effectively, legally "tattoo" every CAFO under this permit as a "known discharger of pollutants" without actual evidence that such a discharge is occurring, or that such a discharge is large enough or frequent enough to be legally actionable.

Page Five, S2.A The definition of who must apply appears to target every known CAFO in the state, since the proposed standard is one no one I know of currently could meet. In meetings with ECY personnel I have been told straight out that all storage basins have a "discharge". While I do not agree that this statement is supported on a general good science or even case by base site specific basis, I have to take ECY people at their word. Thus then triggers the requirement for a double geomembrane liner with leak detection system between the layers, which is an outrageous standard with huge financial and operational implications for all operators. If ECY's goal is to minimize the potential for discharge to a very low, de minimus standard, that could be simply done as follows with this suggested language as it relates to storage basins. (NOTE: technically speaking ECY is using the wrong terminology, as a lagoon is a storage basin with active treatment management or systems; most CAFO's have simple STORAGE BASINS. See NRCS for details and correct your wording please.

Suggested replacement language relating to Storage Basins OR Treatment Lagoons: **The owner or operator of a CAFO will be required to show that their storage basin or treatment lagoon met the**

current NRCS Standard for permeability of 10-6 with either a natural clay or synthetic liner as constructed. Such evidence can be in the form of engineered drawings, specifications, other documentation and/or testing by a licensed PE establishing individual storage locations met this NRCS standard on construction.

The presumption made by ECY that even storage basins or treatment lagoons meeting this standard and appropriately maintained is not one supported by available science. Adoption of the proposed language will lead to litigation on the basis that it is arbitrary and capricious, and science individual producers and their experts have shared with ECY show that either no discharge is occurring, or any such discharge is so small as to not be legally actionable.

If ECY is challenged successfully in court on this issue, then the entire basis of the permit will be made moot, and the 5+ years and countless hours and dollars spent on developing the proposed permit will be wasted and lost. The process will have to re-start all over again, more likely than not on the suggested basis with this changed definition. There is no reason to abandon the decades of excellent science and field experience embodied in the current NRCS Standard. An excellent case could be constructed to show that adoption of ECY's proposed standard, which will require complete destruction and remodeling of all storage basins. This creates some risk to waters of the state where no documented problems exist.

In summary: The proposed rule puts all producers in the absolutely untenable position of having to do what no other segment of agriculture has ever had to do - prove a negative, that their facilities are not discharging actionable amounts of any pollutant. In my experience courts are not very keen on regulator schemes based on such a principal.

Page Six, S2C: ECY should pick ONE of the multiple choice possibilities as the date CERTAIN upon which a completed application is received when permit will become effective. Much like under the state SEPA rules, once a determination of "completeness" of the submission is received and acknowledged, there are only a certain number of statutory days until the permitting agency must issue subject permits. Producers need CERTAINTY. The proposed process is a maybe-but-if-then process certain to cause confusion, increase costs with no apparent benefits to anyone. ONE MORE TIME: small businessmen, like dairy producers, must have certainty to the regulatory process or they incur direct and indirect costs for which they receive no benefits. In the for-profit (so we can generate the tax revenue to support your department) world, we need a reasonable short and certain pathway, period. Take a look at the SEPA law, where once an application is certified to have complied with submittal of all required information, a date certain is set for the completion of the process.

Page Seven/Eight, S2.F: Under condition 1. a the requirement that ALL manure litter, process wastewater, etc be removed from the site is a physical and fiscal impossibility. This language must be changed to something which sets a real world, reasonable standard. For example, what possible harm could there be if manure, process waste water, litter, etc. were uniformly distributed (Land Applied) in accordance with the provisions of the NRCS 590 Standard upon facility decommissioning and conversion to farmland, where crops would naturally take up nutrients which could be removed as feed or fiber crops? You simply must dispense with the word ALL. Under the law there is an allowance for small amounts which are not of broad significance, and pose no unreasonable risk to air or ground/surface water quality. Please change the standard to reflect living in this real world, not an idealistic creation of an enforcement driven agency. Should you leave this wording in, you are also inviting, with absolute certainty, third party civil litigation for any AFO/CAFO site converted to other uses.

Page Eight/Nine, S3. A, 2: As previously mentioned, the insertion of the AKART standard is a tar baby for litigation, since there ARE no published, organized by section, BMP's with strong science and technology

backing. The simple solution is to eliminate ANY reference to AKART, and instead substitute the proven for half century, updated every 5 years, NRCS Standards and Practices.

Page Nine, S3B : This section (1, 2 & 3) This section refers to TMDL, or Total Maximum Daily Load, refers to the EPA 303 impaired (surface) waterways. Since all Washington CAFO's are operating under RCW 90.64, and only a couple of percent of these are holders of the current DOE/EPA discharge permit, why would ECY now move to include all CAFO's in the TMDL process since there is no discharge to surface water permitted from a CAFO since the law's inception in 1998? This seems like a very foolish waste of resources by both the agency and the permit holding CAFO. Another case of solving a problem that DOES NOT EXIST. Also, if ECY wants to know how things are generally progressing, since they are funded and authorized by EPA to administer the applicable 303(d) TMDL program, I have a hard time understanding why you would elect to place the burden of evaluating the TMDL issue when you have dedicated, in house staff being paid to do this same thing. I would add that an ECY "expert" evaluation is likely to be more relevant that that generated by the average agricultural producer. Don't you want the best information on this issue to prevail? Isn't is a disservice to introduce less reliable information into this process?

Page Nine S3.C The 180 Day period for review should be reduced to 30 days. If your engineers can't complete a review in this time frame you either need more engineers (overwork) or your engineers are not competent to basic private industry standards. Reduce the time period for review of submitted plans to 30 days.

Page Nine/Ten S4. (Manure Prevention Plan): In lieu of an expensive, duplicate plan specific to ECY demands, permit producers to rely on their existing DNMP, which is specifically designed to direct design, operations and maintenance of CAFO dairy facilities to prevent pollution by animal manure. These DNMP Plans are:

1. Already in place;
2. Proven to be highly effective and reliable;
3. Based on PROVEN NRCS Standards and Practices;
4. Understood and followed by CAFO Dairy producers;
5. Already available and used by WSDA inspectors;
6. Created by experienced, trained NRCS nutrient planners and board certified independent experts.

ECY proposes to take all of this enormous work and resources committed since the late 1990's and throw it in the dumpster, and without a template and body of trained workers ask the producers to produce something to ECY standards. There is no available evidence to suggest that the ECY plan is anywhere near as good as the proven track record and body of work from NRCS and Conservation District and independent experts. This is an excellent example of government wastefully taking something that is working well and breaking it/throwing it away for no good purpose.

Page Ten S4.B. S4.c DNMP plans (see above) follow the same general rule, they are updated whenever there are any significant changes to dairy facilities or operations. Another great reason to ditch creating a whole new "plan" when an excellent one, based on generations of peer reviewed science, updated every 5 years, and has a proven track record of excellent performance is in hand. Put your egos on the shelf and admit to this, substitute in all sections referring to the MPPP a like requirement for a current (less than 3 years old) DNMP. Not everything in the CAFO world is broken; this is the one part that is strongly science supported and generally an excellent performer. Remember here the farming maxim: "if it's not broke, please don't fix it".

Page Twelve/Thirteen 3, (a) 3) We do have a "burrowing" animal that has Federal/State protection and must not be disturbed or harmed (burrowing owl, *Athene cunicularia*. In addition, the Washington ground squirrel, *Urocitellus washingtoni* was made a listing candidate by USFW and WDFW in 1999, and is currently being captured, relocated, bred in an attempt to preserve these species. This section must reflect sensitivity to these animals, which are clearly by both State and Federal law exempt from your proposed mandatory "control". To a producer the word control means to shoot, poison, crush, bury or otherwise kill subject pests.

Page 13 5) Solids, those coarse parts of the manure often deliberately introduced to storage or settling basins which have a particular specific gravity which forces them to float is a natural phenomenon. Solids on the surface also can reduce air emissions and generation of gas, and may insulate the liquid below during the hot summer months, further reducing the emission of H₂S and Ammonia. Here ECY is asking for producers to do something contrary to established BMP's and contrary to YRCAA and other air regulatory bodies. As practical, it is appropriate to remove debris and weeds from the surface, as practical.

Page 14 b This section recognizes composting, a process in place at some CAFO dairy facilities. However most facilities do not compost, they merely dry manure for either re-use as bedding, or for land application. Please add item 3) to acknowledge this widespread practice which differs substantially from the more complex requirements of the composting RCW 70.95 and 173-350 WAC.
d Feed Storage 2) I find this item to be out of place - it is under "feed storage" yet specifically covers COMPOST. See your section c. Composting Facilities, 2) which duplicates this.

Page Fifteen, 4. Other Above and Below Ground Infrastructure. The requirement for pressure testing is not needed. Each time the pipelines are used (often daily) they are in effect pressure tested. This paragraph should be changed to read: Visual inspection for leaks should be completed weekly when the pipeline is in the season of use (west side year around, east side Mid February to Mid November).

Page Fifteen, 6. Prevent Direct Animal Contact with Water: Since the passage of the DNMP action RCW 90.64, there has been no permitted contact on the CAFO with surface waters, canals, ditches, etc. for all CAFO facilities. Does this section as contemplated by ECY extend to calves, dry cows or milking cows which are on a pasture system? If this is the intent of ECY, then EVERY SINGLE PASTURE IN THIS STATE with dairy or beef, sheep or goats which has even a Type V (ephemeral) stream, which may only have water for a few hours a year, must be restrictively fenced and other provisions made for supplying stock water. Is this the intention of ECY with this section, or are CAFO's being held to a different standard than all other livestock producers in open pasture systems for grazing? Does this cover off season grazing on non CAFO lands? How was the arbitrary 35' buffer arrived at? Wouldn't a 4' buffer with a 2' elevation rise be better than a 35' buffer with only 2" elevation rise to surface water?

7. Chemical Handling - Section a is unnecessary and a duplication of existing Federal 40 CFR law which has parallel State statues. Sections b and c are likewise unnecessary, this same information is on the chemical label itself, which states non conformance is a violation of Federal Law. No need to double dip and extend your authority into an area already covered by WSDA's Pesticide Enforcement Division, backed by EPA. It should be the primary goal of ECY to streamline, not to load up with unnecessary directions and requirements.

Page Seventeen, 9. Manure Nutrient Testing ECY must not be aware that the average time to complete analysis of a manure sample in a certified, qualified lab is 5-6 weeks. Taking the sample that long prior to

the beginning of application may not be representative, and defeat the purpose of the sampling. We agree that nutrients should be tested, but we begin the season with an average number (historic) and correct slightly, if necessary when the lab data comes back. See also later comments on sampling requirements.

10. Soil Nutrient Testing - see later comments on soil test requirements

11. Land Application - see later comments on appendix XX. ECY should realize that "dormant" crops is not a season long phenomenon. In fact we commonly have many weeks from late fall thru early spring when air temps rise to 35F active growth resumes in winter triticale and related winter crops.

Page Eighteen; continuing Land Application: ECY would be well advised to review WSU AgWeatherNet data and consult with an experienced agronomist. The "suggested" window for NO application of October 15 to TSUM-200 is without scientific or practical basis. Strike any reference to this and fall back to the no planted crop/late fall, frozen ground or saturated ground standard. While I realize that this is a more challenging standard to apply from an enforcement perspective, please keep in mind for every ECY enforcement person there are several hundred dairy employees. Your proposed no application window, because it is not based on science, has no business in the permit whatsoever. There are appropriate areas, crops and times within this window when a nutrient application DOES meet the 4 R's and is an appropriate management tool.

Relying on a weather forecast, specifically one which can foretell the exact timing and amount of precipitation is not scientific, since no such forecasting accuracy is currently available to producers, or anyone else. Use more appropriate language that correctly recognizes the elasticity and inaccuracies inherent in forecasting weather. There is no substitute for common sense, some storm systems are so well organized, and on the jet stream track, that common sense will tell us not to apply if the soil is already wet. On the east side this is not so relevant, as with 8-9" annual rainfall it's easy to berm fields and contain runoff.

Temporary ponding of fields which are bermed is not an environmental risk. Application of liquids always produces a temporary ponding, often lasting only an hour or so and rarely overnight. Permit language should acknowledge this.

c. Three foot Soil Benchmark (continues to page 19) ECY is correct, East and West sides need tailored permit language and conditions for land application.

Get rid of the entire Nitrate Benchmark table, it can be proven (Crop Science, Soil Science, Agronomy Journals going back 75+ years, literally thousands of peer reviewed articles) to be completely outside of the industry norm, does NOT meet crop requirements, and in my opinion will reduce crop yields AT A MINIMUM OF 30%! When crop yields are reduced by 30%, this causes a 30% reduction in crop removal of nutrients, therefore 30% more acres must be applied with animal nutrients. Since animal nutrients are by their nature slow release, they are already much more water quality friendly than an equal measure of commercial synthetic fertilizer. This is not just expert opinion, again this is demonstrably true fact. ECY may not be aware but yields which are 30% below average are not economical to grow. I would advise EACH AND EVERY CAFO TO SELL ALL THEIR FARM GROUND IMMEDIATELY should ECY press forward with this non scientific approach. Here's another clue: farms MUST generate a profit to stay in business - and losing hundreds of thousands of dollars to farm under ECY's fantasy world farming game will FORCE producers to divest all their ground to others. These "other" producers are under no such foolish, non-scientific economic/regulator shackles, and they will follow basic MEY economics when determining what sources, methods and timing of applications and total nutrients to apply to their feed and forage crops. Is ECY prepared to regulate ALL of agriculture on this foolish model? My advice ladies and gentlemen, is to be prepared to completely crash our economy. Right now the average American spends well under 10% on food - leaving 90% of their income to pay TAXES and fuel the basic consumer economy. Are you prepared to spend 30% more on food grown locally under these proposed

regulations? And how are we, as the MOST EXPORT DEPENDENT STATE, going to fare in the world marketplace when our prices must rise 30%? Milk products for export have increased exponentially in the past ten years - are you, as an agency, prepared to publically take the whipping you would rightfully have coming should this foolish regulatory scheme press forward? What exactly are you going to say to the members of the Dairgold co-op who are investing another \$20 million plus to expand facilities for export? What are you prepared to say to the millions of drought, war and refugee affected populations world wide - are you ready to deprive them of key nutrition in the name of not even measurable changes in water quality? You have strayed far, far from your mission if you think that this matrix/table represents any kind of viable option. Again, I recognize how nice and neat it would make enforcement, but the cost to producers and society, with no real science showing GAIN in water quality makes this a foolish idea. Here are some simple bullet points about soil nitrate testing and "numbers"

1. Soil tests provide only general guidance are only estimates of plant available N.
2. There is sufficient variation in sampling technique that sample to sample variation is often as high as the range in your matrix, from low to very high.
3. There is often sufficient variation in soil type or depth that even with "good numbers" and a "representative sample" the range of variation is often enough to span the 15-45+ ppm in your matrix.
4. There is NO, repeat ZERO correlation between your Nitrate table and AVERAGE soil tests as most recently proven Lower Yakima GWMA Deep Soil Sampling test data. In fact, based on your matrix and the average of the available fall 2014 and spring 2015 sampling, more than 3/4 of the land area, MOST OF WHICH RECEIVED NO ANIMAL NUTRIENTS, would be off the charts and would according to you REQUIRE "Aggressive Action" which includes recommendations for NO NUTRIENT APPLICATIONS of any kind, PERIOD. What world ARE YOU FOLKS LIVING IN? I concur that there has been a historic pattern of over application of nitrogen for at least the past four generations on most irrigated farm ground in Washington State. I am so certain about this from a technical view point that I am personally CHALLENGING ECY to engage in intensive RESEARCH with large scale plots on irrigated ground during the 2016, 2017 and 2018 seasons. We can locate fields that meet the criteria for HIGH and VERY HIGH, and either follow YOUR recommendations or my agronomic proven recommendations, and using full economic analysis watch the outcome over time on yield and quality, while measuring deep soil water quality by sampling specially installed shallow monitoring wells. ECY can fund the costs of equipment and installation and testing; on behalf of industry I'll provide the testing locations, all farming related inputs and labor to complete the extended testing. Until you have such data in hand, I'll stand on the 75+ years of peer reviewed work in the top industry journals and the NRCS Standards and practices. I must warn you this is a "suckers" bet. This research has already been privately done (not published, owned by the producer who funded it) and the outcome is predictable and certain. IF you as an agency have science that says we can achieve our world class yields and quality with these nitrate soil numbers and your proposed "Required Action Level" activities, please show it to us. If you do not have this data for our basic cropping systems which generate the required food for our cows, you have no MORAL BASIS TO PROCEED forward with the proposed matrix/table on Nitrate.
5. Year to year variation in soil moisture, prior crop, soil temperatures can have a very large effect on the testing results for Nitrate, yet your table/Matrix treats them like they are fixed, not moving targets. Remember, soils tests are A useful tool, NOT THE only tool for predicting crop uptake of Nitrogen.
6. Based on your matrix/table and recommendations, you would tell a grower to forego even the banded, highly targeted application of a "pop up" fertilizer that is the industry standard. This single element can reduce crop yields by over 15%! This is a great example of why the NRCS 4 R's is so much a better standard than your rigid table/matrix.
7. Your test fails to recognize a basic reality of farming; we work twice your hours and more during the compressed harvest season. This is doubling true where we have a two crop system; as soon as the fall corn silage is cut - literally within minutes or hours, we make applications for the NEXT crop, fall seeded

winter triticale. Often there is no opportunity to take soil samples before the nutrients are applied, so we take these samples AFTER nutrient application just before, during or after seeding the fall crop. Now the matrix numbers need to be TRIPLED or MORE for the top 12" of soil in order to fairly reflect the crop nutrients applied for just established winter crop. Your table/matrix does not even recognize this common production reality.

8. As Dr. Joe Harrison has pointed out, second and third foot of soil sample numbers have a very poor correlation with either crop outcome OR water quality. CHECK THE LITERATURE and you will see this is true. With very few exceptions our Land Grant Colleges recommend only 1' samples for land applications of nutrients are recommended. I cannot find any bulletins which are regional, crop specific which recommend for agronomic reasons sampling to the 3' level as your table/matrix suggests. I find it personally outrageous that your matrix suggests for "moderate" score to "revise realistic yield goals". The yield goal of the producer is EITHER ACCURATE AND PROBABLE or it is not. Here you are saying in basic, polite language, this "class" of grower should voluntarily operate well below MEY (maximum economic yield) while all of his competing neighbors can farm WITHOUT RESTRICTION at a yield level that allows for a decent economic return. Given current low commodity prices (corn is about half of what it was several years ago) just to stay in business growers must dedicate themselves to a MEY based budget and actual returns.

Page 20, 12 Irrigation water management (a) east of the cascades. ECY is suggesting that producers REVERSE 75+ years of appropriate land irrigation management. As you may have noticed, our area is in the grip of a very serious drought. Water deliveries have been curtailed 40-60+% especially during the period of maximum need, mid to late summer. The ONLY management tool available is to LOAD THE PROFILE TO AT LEAST 1' BELOW THE MAXIMUM ROOT ZONE. Nitrate in the lower soil profile WILL move upwards with the wetting front as moisture is depleted in the 1', 2', 3' and 4' segments of the profile. There is well documented research to show that where soil depth permits, corn roots to 4'; wheat to 5' and alfalfa 6 to 8'. IN ORDER TO LOAD THE FULL PROFILE THE 1', 2', 3' 4' AND OFTEN 5' DEPTHS MUST BE SATURATED BEYOND FIELD CAPACITY IN ORDER TO LOAD WATER INTO THE LOWER PROFILE. Place yourself in the shoes of the producer; he knows a serious water shortage is coming; if he follows your extremely poor advice, and does not load the profile, crop development is far from potential. This results in LESS NITRATES BEING PULLED UP INTO THE CROP AND UTILIZED, AND REMOVED FROM THE LAND. Can't you see the entirely foolish and self defeating nature of your proposed plan? I agree proper irrigation management, especially in season, can help limit nitrate loss to groundwater. However, your proposed matrix does NOT achieve this goal, and results in a huge financial penalty to CAFO producers vs. all of their neighbors. This appears to be a near perfect (Federal) Equal Protection argument; CAFO growers are penalized and are forced to lose money on crops while their immediate neighbors are under NO SUCH RESTRICTIONS. Furthermore, when viewed in the correct perspective, CAFO producers in Washington State control less than 1% of irrigated cropland; this plan does absolutely NOTHING from a big picture view but put CAFO producers out of business, with NO MEASURABLE EFFECTS ON GROUND OR SURFACE WATER QUALITY.

Page 21, #13. In arid Eastern Washington, field buffers are not necessary and would contribute nothing to water quality. Field BERMS prevent run on and run off and are compliant with RCW 90.64; nothing new is required to protect surface waters.

The suggested 35' vegetative buffer is an arbitrary and capricious standard. Every experienced and qualified expert knows that in many cases buffers are not required. In cases where a buffer may be beneficial, as little as 4-6' in combination with a field berm provides excellent water quality protection. Mandating a one size fits all approach certainly makes enforcement easier, but the purpose of

regulations is not to ease the life of regulators. Buffers should be field specific and comply with NRCS Standards and Practices, PERIOD.

Likewise, there is no technical support from the research literature that a 100' setback is required for water quality on any given field. We are faced again with a regulatory approach designed to make life cushy for regulators at the substantial expense of producers. Further, since this standard applies to irrigation ditches, very large acreages are effectively being removed from production for no real measurable gain in water quality performance. Again, compliance with NRCS Standards and Practices which allow individual producers and specific site conditions to control appropriate areas for land application of nutrients provides strong water quality protection on a site specific basis. Your one size fits all approach by very definition takes the worst risk scenario of a fraction of a percent and applies a standard necessary there to the other 99.9% of the land area where it is not needed or appropriate. The enormous economic implications of this proposed standard, combined with the lack of documented need for such a draconian regulation should have kept this from even being part of your draft proposal.

Page 22 S5. Monitoring: It is unclear what records will be required in this section. Specify in the next draft for each item what needs to be recorded, how and when.

S5.B What is the technical basis, the research upon which ECY is relying in setting these standards for manure sampling?

It seems to me that just referring to the PNW0533 bulletin, or "other appropriate method" would wonderfully clarify and simplify this section.

Page 24 3. Manure analysis

There is absolutely NO TECHNICAL BASIS to require Organic Matter testing - by definition all a manure sample contains is WATER, AIR, ORGANIC MATTER and trace amounts of soil. This is a foolish waste of time and money and provides NO information useful for calculating land application rates. PH is only useful when land applying to very acid or alkaline soils (Below 5.0 or above 8.0). Another useless expenditure.

TKN is perhaps the LEAST useful measurement of Nitrogen - does not allow a producer to calculate land application values. Analysis for NH₃ and NH₄ are much more useful and appropriate.

Phosphorus testing, along with Potassium testing, is very useful for land application/crop nutrient purposes, but has little value for ECY in the regulatory scheme, especially on the East side.

Page 25

S5.C Soil Sampling Options: Simplify this section by simple referral to the U of I Soil Sampling Extension Bulletin, or other regionally or nationally recognized sources.

2. Soil Sample Analysis: Again, OM testing is expensive and unnecessary! TKN is not the best predictive tool for Nitrogen, measuring NH₃, NH₄ and NO₃ testing has far better value for calculations of land application rates and meeting planned crop requirements. Please review your own Document 02-02-002, published January 2002 "Effects of Land Applications of Dairy Manure and Wastewater on Groundwater Quality". Here you selected appropriate parameters for testing, NONE of which included TKN for soils or water sampling, ONLY for nutrient/manure samples.

Page 24 3. Manure Sample Analysis: Again delete reference to TKN, test for NH₃ and Phosphorus only; I find the addition of Potassium testing helpful for calculation of land application rates. Testing the OM of a material largely OM seems completely unnecessary.

S5.C Soil Sampling Options: Delete reference to 2nd and 3rd foot samples. 0-12" is the industry standard. I suggest ECY contact and survey the 5-7 largest soil labs and confer with their experts. I suspect they will find that over 90% of their samples submitted by producers, consultants, fertilizer

dealers and others are 0-12". Given the very large economic stakes - BILLIONS of dollars of crops, you must therefore assume we know something ECY does not: There is not good correlation with 2' and 3' samples with crop uptake, utilization, efficiency of nutrients. THAT IS WHY THE FARMING INDUSTRY, NOT COMPOSED OF IDIOTS, DOES NOT UTILIZE THESE DEEPER SOIL TESTS; THEY ARE NOT ACCURATE ENOUGH, AND DO NOT CORRELATE EFFECTIVELY ENOUGH WITH CROP OUTCOME TO BE USED.

Whatever ECY thinks they know about water quality and depth of sampling required on irrigated agricultural fields, you have apparently failed to consult with soil science, agronomy, horticulture and related experts about how to properly design a soil sampling regime.

It also seems appropriate to remind ECY that the cost of taking a single 0-12" sample and having it analyzed is about 25% of the cost of your proposed program. (it costs more to go deeper, takes more time and effort). So in one fell swoop ECY, if this stands, will have QUARUPLED the cost of soil testing for producers. WHERE is the technical data that this is a cost effective, certain way to measurably improve water quality? Please refer to your Publication 02-03-002 where a MUCH more appropriate matrix/threshold level of N is utilized:

(cut and paste directly from this publication)

Soil Nitrate Relative Risk Scale
Soil Nitrate
Concentration Relative
(pounds N/acre) Risk
0 to 40 Low
40 to 80 Medium
80 to 160 High
>160 Very High

Page 25/26 S5.D Monitoring Beyond Permit Requirements: It is entirely unclear to me why any producer would "elect" to monitor as described in this section. Will this be imposed at the discretion of ECY at some time in the future in a "non elective" manner?

Page 26/27 Record Keeping I recommend ECY WORK WITH Producers and their experts to develop a standard compliant template. To do otherwise is to invite accusations of improper or inadequate records by Producers. The key here is to WORK WITH producers to slim and streamline this to the basics only.

ECY should recognize that some of the parameters suggested are do not appear to have any correlation with water quality. Some suggested parameters have no scientific basis or procedure or equipment available - for example how does a producer measure the amount of solids in a liquid storage basin? Most of this would be by visual estimates, not very reliable data.

Page 27, 28:

S6.B Land Application Record Keeping: Strike this entire section and replace with SAME RECORDS AND FORMAT AS PROVIDED BY WSDA under RCW 90.64. Why change something producers have and are familiar with? This has all the information ECY would desire.

Page 28 S6.C Records retention: Simplify, state minimum 5 years. Unnecessary to add in anything relating to unresolved litigation; State and Federal law and court rulings already have this covered, this is unnecessary.

S7.A This requirement is unnecessary and represents an invasion of privacy. See prior comments, MPPP is unnecessary, all the important elements are currently available under the DNMP/RCW 90.64. ECY makes no argument and has provided no reasonable justification, or scientific data to suggest that the

stand they seek to impose will or even could result in better water quality than the current standard based on NRCS Standards and Practices.

Page 29: S7.B, 2: Nutrient Budget report. ECY should engage with the NRCS, Conservation Districts and private industry consultants to DEVELOP the reporting form or approved format.

S7.C DELETE this is completely redundant and was made totally unnecessary as a result of the detailed Spring, 2015 survey conducted by WSDA. Simply refer to that data, and especially DON'T require producers to SPECULATE on the record about things which may not be known (in detail, accurately) like depth to groundwater. ECY can more easily access their own files and look at area well logs to get more scientific data in this regard, rather than forcing producers who are NOT groundwater experts to guess.

Page 30 5. Remove reference to MPPP, substitute as discussed previously with the already existing, proven DNMP (RCW 90.64)

Page 33 B. Remove language about failure to disclose. This puts the producer in the position of having to guess what ECY "wants" or "needs" or "requires". The permit application, inspections, and annual reporting are sufficient. If ECY fails to ask for certain information it later wants, a simple request in writing with 15 days to respond is sufficient.

D. This is overly broad language. Limit this to infractions which result in an investigation, due process and a legal determination PRIOR to dropping the hammer. As it is currently, vaguely worded, far too much is left open to individual interpretation.

G5. A. Replace this language with language linked to the NRCS BMP's, Standards and Practices, which go through an updating process every 5 years. Many times new technologies that "fix" one problem have unintended, and undesirable effects elsewhere. Only technology which has a proven track record, and is operationally rational and economically viable should be considered under this provision.

D. Unacceptable to WHOM? Who sets this evolving standard? What is the minimum scientific and legal criteria to trigger this provision? All of this must be fully explored and detailed. I would highly recommend that you include the industry you are regulating in this discussion. With over 500 producers state wide, there are thousands of man/years of knowledge, training, education and experience available to ECY to assist in this entire draft re-write process. The offer has been extended, only a fool would not agree to a close working relationship on technical and practical matters.

G6. Reporting cause for modification. This provision appears counter to ECY's stated goals of encouraging (requiring) new technology and or operational/physical plant changes. Remove the provision calling for a NEW application fee in order to ENCOURANGE and not DISCOURAGE operators from substantial improvements.

G9. Compliance with other laws and statutes: Refer to earlier comments. ECY needs to consider ALL applicable laws in the generation of this permit, including provisions which under the Constitution call for EQUAL PROTECTION under the law. Courts have routinely struck down regulatory schemes which target one call of people but fail to treat them equally. Here in this instant case, ECY is contemplating placing major restrictions on basic farming systems, but ONLY on those fields owned or leased/controlled by CAFO operators. This is clear discrimination and disparate treatment. ECY is likely to be engaged on this point legally, and with serious economic consequences for ALL TAXPAYERS who are forced to fund the Washington State AG's office tasked with defending ECY when their actions place others in substantial legal and financial jeopardy.

Page 35 G14. Penalties: Add to this a provision of equal compensation for all CAFO permit holders who are cited under this permit, but ECY does not ultimately prevail. Costs, including legal costs shall be

awarded to any successful party who appeal a violation/fine under this section. What's good for the goose is good for the gander.

Page 36: G16. Appeals . Why is there a reference to the Mosquito control permit? What does that have to do with this permit? Remove all reference to Mosquito Control and add CAFO general permit
G18. Strike the 180 day and instead substitute 90 days as the deadline for reapplication.

Concluding Remarks

It would be wise for ECY to spend some quality time with whomever your assistant AG is to consider the following ENORMOUS problem with virtually every element of this proposed DRAFT CAFO permit: I can clearly see that you are taking a certain regulatory approach which at it's very heart is in fact not only unconstitutional, but morally bankrupt as well.

This IS the greatest country on God's green earth....and a very important part of that is the strong protections afforded in not just the Constitution and Amendments, but in the very detailed, broad collection of statutes on the Federal level which are crafted to do one VERY IMPORTANT THING: Insure that each and every citizen is treated EQUALLY and without prejudice under the law. Here, you have laid out a very clear regulatory scheme which regulates and imposes harsh economic penalties on one CLASS of people, folks who in association with their CAFO operation also farm crops. As detailed in my comments prior in this document, it is my professional opinion that compliance with the proposed soil nitrate standards at 1', 2' and 3' will result in a very serious reduction in yield and quality of common forage crops. Forcing one group of farmers to operating at a 20% to 30% loss compared to all their neighbors on all four sides can be neatly described in a single word; **Discrimination**. I know of absolutely no legal basis where you can so discriminate, particularly when there are such dire economic consequences. Either you will have to concurrently propose regulations for ALL farming of an EQUAL nature, or be prepared to face the consequences in front of the appropriate court(s). Please re-think this entire proposal in this regard; Industry, Science and the General Public all would not be on your side in any such litigation. Taxpayer resources are limited, so please don't squander on this proposal; send it to the circular file for the next draft.

Finally, I will urge ECY to AGAIN find EXPERIENCED, BOARD CERTIFIED, Crop Science or Agronomy experts to assist you in this next draft. You may be engineers, and arguably skilled in that limited area. Until and unless you acquire - by hiring or contracting out such expertise, I see it as unlikely that you will be able to generate a coherent, science based permit, most especially on the land application and soil sampling issues.

Yours Very Truly,



Stuart A. Turner, CPAg, CCA
Turner & Co., Inc.



Turner & Co., Inc.

DEPARTMENT OF ECOLOGY

OCT 02 2015

WATER QUALITY PROGRAM

STUART A. TURNER
5903 Kilawea Dr.
West Richland, WA 99353

Phone: (509) 967-0460
Fax: (509) 967-5865
Mobile: (509) 539-5524
E-mail: agforensic@aol.com

October 2, 2015

Via FAX 360-407-6426 and email: jonathan.jennings@ecy.wa.gov

Mr. Jon Jennings
Washington State DOE
P.O. Box 47696
Olympia, WA 98504-7696

Re: Comments on DRAFT CAFO PERMIT

Dear Mr. Jennings,

Please find following some of my thoughts and comments on the DRAFT CAFO permit as proposed by your agency, Washington State Department of Ecology. These comments are in order from the first page forward for your ease of correlation, and are intended to simplify, improve and make the proposed permit both obtainable and adaptable to the agricultural family businesses that are directly affected. These comments are also intended to more broadly to make the possible benefits to the general population at large, through water quality improvements over time, more likely to be real and sustainable. The CAFO agricultural community in Washington State has an unchallenged record of leadership for many years as the progressive and committed part of the agricultural community as it pertains to air, water and soil quality. The strong support given to the crafting, adoption, and implementation of the 1998 Dairy Nutrient Management Act (RCW 90.64) is but one good example of this support and leadership consistently provided by CAFO/Dairy operators in this state.

Overview Comments

Washington State is a uniquely diverse state, naturally divided "West -Wet" and "East-Dry" climates as a result of the North to South Cascade mountains. In Whatcom County on the West side, average annual rainfall is around 60"; The average East side facility is located in a rainfall zone of 8-10" annually. DOE should recognize this obvious, dominating climate factor and develop separate permits, one for the West Side, one for the East Side since the physical operations and challenges are so diverse.

Technical information - broadly defined as well accepted, published and peer reviewed science able to pass a Federal Court "Daubert" test should be the ONLY source of information relied upon by DOE in forming a CAFO (final) permit. This same definition of reliable science exists in many forms, formats and locations, but is most generally available through journals published by the Tri-Societies (American Society of Agronomy, Soils and Crop Science), Land Grant Institutions (WSU, OSU, U of I), and the very extensive set of NRCS Standards and Practices. The latter contains specific, peer reviewed, updated every 5 years recommended BMP's on a very wide variety of key design and management practices and standards directly related to environmentally safe and compliant CAFO design, build and



operations. The body of technical research which supports these NRCS Practices and Standards is without peer, and clearly establishes the very best and highest available science for CAFO's. I strongly recommend that ALL references to "AKART" be DELETED from the draft CAFO permit language, and instead substitute the readily available NRCS Standards and Practices, with a supporting role by the Land Grant Institutions Extension Bulletins. You may wish to go further into detail, and list specific Practices by Number and Name - for example the NRCS 590 Standard, which covers the important area of Nutrient Management. The problem from both a producer and enforcement agency perspective with the current proposed language using the AKART standard is that this is a very poor system open to widely divergent views about what is "Available"; what is "Known", and especially what is "Reasonable". Use of this term is a direct fast lane to litigation to try and define that which is not really definable in the AKART. Why in the world would you default to this difficult "non definition - definition" when there is a strong, Federal base well defined in each technical area available to you via the NRCS Standards and Practices? It is an unconscionable waste of very limited practices to plan to use AKART when it is CERTAIN to be challenged by both producers and activist groups with a history of litigation on water quality enforcement issues.

Comments, In Order on the DRAFT CAFO Permit

Page Four - Permit Condition G18 - Renewal Notice of 180 days is EXCESSIVE. This should be reduced to one quarter, or 120 days.

Page Five, S1.A Change the language to read as follows (emphasis added) This statewide general permit covers activities associated with operating a concentrated animal feeding operation (CAFO) (strike the words "that result", and insert) **that may** result in a discharge of pollutants to waters of the state..." To my knowledge, DOE does not possess any studies peer reviewed, scientific relating to any currently operating CAFO/Dairy sites which show such discharges to waters of the state are in fact currently occurring. While it is likely that very small amounts of contaminants could be discharging, the courts have been consistently recognizing and applying a "de minimus" standard which says essentially these discharges are either so small or so small and infrequent as to not constitute a legally actionable amount. DOE should recognize this, and change the wording as suggested above to more accurately reflect actual field operational conditions. To proceed with the current proposed language is to effectively, legally "tattoo" every CAFO under this permit as a "known discharger of pollutants" without actual evidence that such a discharge is occurring, or that such a discharge is large enough or frequent enough to be legally actionable.

Page Five, S2.A The definition of who must apply appears to target every known CAFO in the state, since the proposed standard is one no one I know of currently could meet. In meetings with ECY personnel I have been told straight out that all storage basins have a "discharge". While I do not agree that this statement is supported on a general good science or even case by base site specific basis, I have to take ECY people at their word. Thus then triggers the requirement for a double geomembrane liner with leak detection system between the layers, which is an outrageous standard with huge financial and operational implications for all operators. If ECY's goal is to minimize the potential for discharge to a very low, de minimus standard, that could be simply done as follows with this suggested language as it relates to storage basins. (NOTE: technically speaking ECY is using the wrong terminology, as a lagoon is a storage basin with active treatment management or systems; most CAFO's have simple STORAGE BASINS. See NRCS for details and correct your wording please.

Suggested replacement language relating to Storage Basins OR Treatment Lagoons: **The owner or operator of a CAFO will be required to show that their storage basin or treatment lagoon met the**

current NRCS Standard for permeability of 10-6 with either a natural clay or synthetic liner as constructed. Such evidence can be in the form of engineered drawings, specifications, other documentation and/or testing by a licensed PE establishing individual storage locations met this NRCS standard on construction.

The presumption made by ECY that even storage basins or treatment lagoons meeting this standard and appropriately maintained is not one supported by available science. Adoption of the proposed language will lead to litigation on the basis that it is arbitrary and capricious, and science individual producers and their experts have shared with ECY show that either no discharge is occurring, or any such discharge is so small as to not be legally actionable.

If ECY is challenged successfully in court on this issue, then the entire basis of the permit will be made moot, and the 5+ years and countless hours and dollars spent on developing the proposed permit will be wasted and lost. The process will have to re-start all over again, more likely than not on the suggested basis with this changed definition. There is no reason to abandon the decades of excellent science and field experience embodied in the current NRCS Standard. An excellent case could be constructed to show that adoption of ECY's proposed standard, which will require complete destruction and remodeling of all storage basins. This creates some risk to waters of the state where no documented problems exist.

In summary: The proposed rule puts all producers in the absolutely untenable position of having to do what no other segment of agriculture has ever had to do - prove a negative, that their facilities are not discharging actionable amounts of any pollutant. In my experience courts are not very keen on regulator schemes based on such a principal.

Page Six, S2C: ECY should pick ONE of the multiple choice possibilities as the date CERTAIN upon which a completed application is received when permit will become effective. Much like under the state SEPA rules, once a determination of "completeness" of the submission is received and acknowledged, there are only a certain number of statutory days until the permitting agency must issue subject permits. Producers need CERTAINTY. The proposed process is a maybe-but-if-then process certain to cause confusion, increase costs with no apparent benefits to anyone. ONE MORE TIME: small businessmen, like dairy producers, must have certainty to the regulatory process or they incur direct and indirect costs for which they receive no benefits. In the for-profit (so we can generate the tax revenue to support your department) world, we need a reasonable short and certain pathway, period. Take a look at the SEPA law, where once an application is certified to have complied with submittal of all required information, a date certain is set for the completion of the process.

Page Seven/Eight, S2.F: Under condition 1. a the requirement that ALL manure litter, process wastewater, etc be removed from the site is a physical and fiscal impossibility. This language must be changed to something which sets a real world, reasonable standard. For example, what possible harm could there be if manure, process waste water, litter, etc. were uniformly distributed (Land Applied) in accordance with the provisions of the NRCS 590 Standard upon facility decommissioning and conversion to farmland, where crops would naturally take up nutrients which could be removed as feed or fiber crops? You simply must dispense with the word ALL. Under the law there is an allowance for small amounts which are not of broad significance, and pose no unreasonable risk to air or ground/surface water quality. Please change the standard to reflect living in this real world, not an idealistic creation of an enforcement driven agency. Should you leave this wording in, you are also inviting, with absolute certainty, third party civil litigation for any AFO/CAFO site converted to other uses.

Page Eight/Nine, S3. A, 2: As previously mentioned, the insertion of the AKART standard is a tar baby for litigation, since there ARE no published, organized by section, BMP's with strong science and technology

backing. The simple solution is to eliminate ANY reference to AKART, and instead substitute the proven for half century, updated every 5 years, NRCS Standards and Practices.

Page Nine, S3B : This section (1, 2 & 3) This section refers to TMDL, or Total Maximum Daily Load, refers to the EPA 303 impaired (surface) waterways. Since all Washington CAFO's are operating under RCW 90.64, and only a couple of percent of these are holders of the current DOE/EPA discharge permit, why would ECY now move to include all CAFO's in the TMDL process since there is no discharge to surface water permitted from a CAFO since the law's inception in 1998? This seems like a very foolish waste of resources by both the agency and the permit holding CAFO. Another case of solving a problem that DOES NOT EXIST. Also, if ECY wants to know how things are generally progressing, since they are funded and authorized by EPA to administer the applicable 303(d) TMDL program, I have a hard time understanding why you would elect to place the burden of evaluating the TMDL issue when you have dedicated, in house staff being paid to do this same thing. I would add that an ECY "expert" evaluation is likely to be more relevant that that generated by the average agricultural producer. Don't you want the best information on this issue to prevail? Isn't is a disservice to introduce less reliable information into this process?

Page Nine S3.C The 180 Day period for review should be reduced to 30 days. If your engineers can't complete a review in this time frame you either need more engineers (overwork) or your engineers are not competent to basic private industry standards. Reduce the time period for review of submitted plans to 30 days.

Page Nine/Ten S4. (Manure Prevention Plan): In lieu of an expensive, duplicate plan specific to ECY demands, permit producers to rely on their existing DNMP, which is specifically designed to direct design, operations and maintenance of CAFO dairy facilities to prevent pollution by animal manure. These DNMP Plans are:

1. Already in place;
2. Proven to be highly effective and reliable;
3. Based on PROVEN NRCS Standards and Practices;
4. Understood and followed by CAFO Dairy producers;
5. Already available and used by WSDA inspectors;
6. Created by experienced, trained NRCS nutrient planners and board certified independent experts.

ECY proposes to take all of this enormous work and resources committed since the late 1990's and throw it in the dumpster, and without a template and body of trained workers ask the producers to produce something to ECY standards. There is no available evidence to suggest that the ECY plan is anywhere near as good as the proven track record and body of work from NRCS and Conservation District and independent experts. This is an excellent example of government wastefully taking something that is working well and breaking it/throwing it away for no good purpose.

Page Ten S4.B. S4.c DNMP plans (see above) follow the same general rule, they are updated whenever there are any significant changes to dairy facilities or operations. Another great reason to ditch creating a whole new "plan" when an excellent one, based on generations of peer reviewed science, updated every 5 years, and has a proven track record of excellent performance is in hand. Put your egos on the shelf and admit to this, substitute in all sections referring to the MPPP a like requirement for a current (less than 3 years old) DNMP. Not everything in the CAFO world is broken; this is the one part that is strongly science supported and generally an excellent performer. Remember here the farming maxim: "if it's not broke, please don't fix it".

Page Twelve/Thirteen 3, (a) 3) We do have a "burrowing" animal that has Federal/State protection and must not be disturbed or harmed (burrowing owl, Athene cunicularia. In addition, the Washington ground squirrel, Urocitellus washingtoni was made a listing candidate by USFW and WDFW in 1999, and is currently being captured, relocated, bred in an attempt to preserve these species. This section must reflect sensitivity to these animals, which are clearly by both State and Federal law exempt from your proposed mandatory "control". To a producer the word control means to shoot, poison, crush, bury or otherwise kill subject pests.

Page 13 5) Solids, those coarse parts of the manure often deliberately introduced to storage or settling basins which have a particular specific gravity which forces them to float is a natural phenomenon. Solids on the surface also can reduce air emissions and generation of gas, and may insulate the liquid below during the hot summer months, further reducing the emission of H2S and Ammonia. Here ECY is asking for producers to do something contrary to established BMP's and contrary to YRCAA and other air regulatory bodies. As practical, it is appropriate to remove debris and weeds from the surface, as practical.

Page 14 b This section recognizes composting, a process in place at some CAFO dairy facilities. However most facilities do not compost, they merely dry manure for either re-use as bedding, or for land application. Please add item 3) to acknowledge this widespread practice which differs substantially from the more complex requirements of the composting RCW 70.95 and 173-350 WAC.

d Feed Storage 2) I find this item to be out of place - it is under "feed storage" yet specifically covers COMPOST. See your section c. Composting Facilities, 2) which duplicates this.

Page Fifteen, 4. Other Above and Below Ground Infrastructure. The requirement for pressure testing is not needed. Each time the pipelines are used (often daily) they are in effect pressure tested. This paragraph should be changed to read: Visual inspection for leaks should be completed weekly when the pipeline is in the season of use (west side year around, east side Mid February to Mid November).

Page Fifteen, 6. Prevent Direct Animal Contact with Water: Since the passage of the DNMP action RCW 90.64, there has been no permitted contact on the CAFO with surface waters, canals, ditches, etc. for all CAFO facilities. Does this section as contemplated by ECY extend to calves, dry cows or milking cows which are on a pasture system? If this is the intent of ECY, then EVERY SINGLE PASTURE IN THIS STATE with dairy or beef, sheep or goats which has even a Type V (ephemeral) stream, which may only have water for a few hours a year, must be restrictively fenced and other provisions made for supplying stock water. Is this the intention of ECY with this section, or are CAFO's being held to a different standard than all other livestock producers in open pasture systems for grazing? Does this cover off season grazing on non CAFO lands? How was the arbitrary 35' buffer arrived at? Wouldn't a 4' buffer with a 2' elevation rise be better than a 35' buffer with only 2" elevation rise to surface water?

7. Chemical Handling - Section a is unnecessary and a duplication of existing Federal 40 CFR law which has parallel State statues. Sections b and c are likewise unnecessary, this same information is on the chemical label itself, which states non conformance is a violation of Federal Law. No need to double dip and extend your authority into an area already covered by WSDA's Pesticide Enforcement Division, backed by EPA. It should be the primary goal of ECY to streamline, not to load up with unnecessary directions and requirements.

Page Seventeen, 9. Manure Nutrient Testing ECY must not be aware that the average time to complete analysis of a manure sample in a certified, qualified lab is 5-6 weeks. Taking the sample that long prior to

the beginning of application may not be representative, and defeat the purpose of the sampling. We agree that nutrients should be tested, but we begin the season with an average number (historic) and correct slightly, if necessary when the lab data comes back. See also later comments on sampling requirements.

10. Soil Nutrient Testing - see later comments on soil test requirements

11. Land Application - see later comments on appendix XX. ECY should realize that "dormant" crops is not a season long phenomenon. In fact we commonly have many weeks from late fall thru early spring when air temps rise to 35F active growth resumes in winter triticale and related winter crops.

Page Eighteen; continuing Land Application: ECY would be well advised to review WSU AgWeathernet data and consult with an experienced agronomist. The "suggested" window for NO application of October 15 to TSUM-200 is without scientific or practical basis. Strike any reference to this and fall back to the no planted crop/late fall, frozen ground or saturated ground standard. While I realize that this is a more challenging standard to apply from an enforcement perspective, please keep in mind for every ECY enforcement person there are several hundred dairy employee. Your proposed no application window, because it is not based on science, has no business in the permit whatsoever. There are appropriate areas, crops and times within this window when a nutrient application DOES meet the 4 R's and is an appropriate management tool.

Relying on a weather forecast, specifically one which can foretell the exact timing and amount of precipitation is not scientific, since no such forecasting accuracy is currently available to producers, or anyone else. Use more appropriate language that correctly recognizes the elasticity and inaccuracies inherent in forecasting weather. There is no substitute for common sense, some storm systems are so well organized, and on the jet stream track, that common sense will tell us not to apply if the soil is already wet. On the east side this is not so relevant, as with 8-9" annual rainfall it's easy to berm fields and contain runoff.

Temporary ponding of fields which are bermed is not an environmental risk. Application of liquids always produces a temporary ponding, often lasting only an hour or so and rarely overnight. Permit language should acknowledge this.

c. Three foot Soil Benchmark (continues to page 19) ECY is correct, East and West sides need tailored permit language and conditions for land application.

Get rid of the entire Nitrate Benchmark table, it can be proven (Crop Science, Soil Science, Agronomy Journals going back 75+ years, literally thousands of peer reviewed articles) to be completely outside of the industry norm, does NOT meet crop requirements, and in my opinion will reduce crop yields AT A MINIMUM OF 30%! When crop yields are reduced by 30%, this causes a 30% reduction in crop removal of nutrients, therefore 30% more acres must be applied with animal nutrients. Since animal nutrients are by their nature slow release, they are already much more water quality friendly than an equal measure of commercial synthetic fertilizer. This is not just expert opinion, again this is demonstrably true fact. ECY may not be aware but yields which are 30% below average are not economical to grow. I would advise EACH AND EVERY CAFO TO SELL ALL THEIR FARM GROUND IMMEDIATELY should ECY press forward with this non scientific approach. Here's another clue: farms MUST generate a profit to stay in business - and losing hundreds of thousands of dollars to farm under ECY's fantasy world farming game will FORCE producers to divest all their ground to others. These "other" producers are under no such foolish, non-scientific economic/regulator shackles, and they will follow basic MEY economics when determining what sources, methods and timing of applications and total nutrients to apply to their feed and forage crops. Is ECY prepared to regulate ALL of agriculture on this foolish model? My advice ladies and gentlemen, is to be prepared to completely crash our economy. Right now the average American spends well under 10% on food - leaving 90% of their income to pay TAXES and fuel the basic consumer economy. Are you prepared to spend 30% more on food grown locally under these proposed

regulations? And how are we, as the MOST EXPORT DEPENDENT STATE, going to fare in the world marketplace when our prices must rise 30%? Milk products for export have increased exponentially in the past ten years - are you, as an agency, prepared to publically take the whipping you would rightfully have coming should this foolish regulatory scheme press forward? What exactly are you going to say to the members of the Dairgold co-op who are investing another \$20 million plus to expand facilities for export? What are you prepared to say to the millions of drought, war and refugee affected populations world wide - are you ready to deprive them of key nutrition in the name of not even measurable changes in water quality? You have strayed far, far from your mission if you think that this matrix/table represents any kind of viable option. Again, I recognize how nice and neat it would make enforcement, but the cost to producers and society, with no real science showing GAIN in water quality makes this a foolish idea. Here are some simple bullet points about soil nitrate testing and "numbers"

1. Soil tests provide only general guidance are only estimates of plant available N.
2. There is sufficient variation in sampling technique that sample to sample variation is often as high as the range in your matrix, from low to very high.
3. There is often sufficient variation in soil type or depth that even with "good numbers" and a "representative sample" the range of variation is often enough to span the 15-45+ ppm in your matrix.
4. There is NO, repeat ZERO correlation between your Nitrate table and AVERAGE soil tests as most recently proven Lower Yakima GWMA Deep Soil Sampling test data. In fact, based on your matrix and the average of the available fall 2014 and spring 2015 sampling, more than 3/4 of the land area, MOST OF WHICH RECEIVED NO ANIMAL NUTRIENTS, would be off the charts and would according to you REQUIRE "Aggressive Action" which includes recommendations for NO NUTRIENT APPLICATIONS of any kind, PERIOD. What world ARE YOU FOLKS LIVING IN? I concur that there has been a historic pattern of over application of nitrogen for at least the past four generations on most irrigated farm ground in Washington State. I am so certain about this from a technical view point that I am personally CHALLENGING ECY to engage in intensive RESEARCH with large scale plots on irrigated ground during the 2016, 2017 and 2018 seasons. We can locate fields that meet the criteria for HIGH and VERY HIGH, and either follow YOUR recommendations or my agronomic proven recommendations, and using full economic analysis watch the outcome over time on yield and quality, while measuring deep soil water quality by sampling specially installed shallow monitoring wells. ECY can fund the costs of equipment and installation and testing; on behalf of industry I'll provide the testing locations, all farming related inputs and labor to complete the extended testing. Until you have such data in hand, I'll stand on the 75+ years of peer reviewed work in the top industry journals and the NRCS Standards and practices. I must warn you this is a "suckers" bet. This research has already been privately done (not published, owned by the producer who funded it) and the outcome is predictable and certain. IF you as an agency have science that says we can achieve our world class yields and quality with these nitrate soil numbers and your proposed "Required Action Level" activities, please show it to us. If you do not have this data for our basic cropping systems which generate the required food for our cows, you have no MORAL BASIS TO PROCEED forward with the proposed matrix/table on Nitrate.
5. Year to year variation in soil moisture, prior crop, soil temperatures can have a very large effect on the testing results for Nitrate, yet your table/Matrix treats them like they are fixed, not moving targets. Remember, soils tests are A useful tool, NOT THE only tool for predicting crop uptake of Nitrogen.
6. Based on your matrix/table and recommendations, you would tell a grower to forego even the banded, highly targeted application of a "pop up" fertilizer that is the industry standard. This single element can reduce crop yields by over 15%! This is a great example of why the NRCS 4 R's is so much a better standard than your rigid table/matrix.
7. Your test fails to recognize a basic reality of farming; we work twice your hours and more during the compressed harvest season. This is doubling true where we have a two crop system; as soon as the fall corn silage is cut - literally within minutes or hours, we make applications for the NEXT crop, fall seeded

winter triticale. Often there is no opportunity to take soil samples before the nutrients are applied, so we take these samples AFTER nutrient application just before, during or after seeding the fall crop. Now the matrix numbers need to be TRIPLED or MORE for the top 12" of soil in order to fairly reflect the crop nutrients applied for just established winter crop. Your table/matrix does not even recognize this common production reality.

8. As Dr. Joe Harrison has pointed out, second and third foot of soil sample numbers have a very poor correlation with either crop outcome OR water quality. CHECK THE LITERATURE and you will see this is true. With very few exceptions our Land Grant Colleges recommend only 1' samples for land applications of nutrients are recommended. I cannot find any bulletins which are regional, crop specific which recommend for agronomic reasons sampling to the 3' level as your table/matrix suggests. I find it personally outrageous that your matrix suggests for "moderate" score to "revise realistic yield goals". The yield goal of the producer is EITHER ACCURATE AND PROBABLE or it is not. Here you are saying in basic, polite language, this "class" of grower should voluntarily operate well below MEY (maximum economic yield) while all of his competing neighbors can farm WITHOUT RESTRICTION at a yield level that allows for a decent economic return. Given current low commodity prices (corn is about half of what it was several years ago) just to stay in business growers must dedicate themselves to a MEY based budget and actual returns.

Page 20, 12 Irrigation water management (a) east of the cascades. ECY is suggesting that producers REVERSE 75+ years of appropriate land irrigation management. As you may have noticed, our area is in the grip of a very serious drought. Water deliveries have been curtailed 40-60+% especially during the period of maximum need, mid to late summer. The ONLY management tool available is to LOAD THE PROFILE TO AT LEAST 1' BELOW THE MAXIMUM ROOT ZONE. Nitrate in the lower soil profile WILL move upwards with the wetting front as moisture is depleted in the 1', 2', 3' and 4' segments of the profile. There is well documented research to show that where soil depth permits, corn roots to 4'; wheat to 5' and alfalfa 6 to 8'. IN ORDER TO LOAD THE FULL PROFILE THE 1', 2', 3' 4' AND OFTEN 5' DEPTHS MUST BE SATURATED BEYOND FIELD CAPACITY IN ORDER TO LOAD WATER INTO THE LOWER PROFILE. Place yourself in the shoes of the producer; he knows a serious water shortage is coming; if he follows your extremely poor advice, and does not load the profile, crop development is far from potential. This results in LESS NITRATES BEING PULLED UP INTO THE CROP AND UTILIZED, AND REMOVED FROM THE LAND. Can't you see the entirely foolish and self defeating nature of your proposed plan? I agree proper irrigation management, especially in season, can help limit nitrate loss to groundwater. However, your proposed matrix does NOT achieve this goal, and results in a huge financial penalty to CAFO producers vs. all of their neighbors. This appears to be a near perfect (Federal) Equal Protection argument; CAFO growers are penalized and are forced to lose money on crops while their immediate neighbors are under NO SUCH RESTRICTIONS. Furthermore, when viewed in the correct perspective, CAFO producers in Washington State control less than 1% of irrigated cropland; this plan does absolutely NOTHING from a big picture view but put CAFO producers out of business, with NO MEASURABLE EFFECTS ON GROUND OR SURFACE WATER QUALITY.

Page 21, #13. In arid Eastern Washington, field buffers are not necessary and would contribute nothing to water quality. Field BERMS prevent run on and run off and are compliant with RCW 90.64; nothing new is required to protect surface waters.

The suggested 35' vegetative buffer is an arbitrary and capricious standard. Every experienced and qualified expert knows that in many cases buffers are not required. In cases where a buffer may be beneficial, as little as 4-6' in combination with a field berm provides excellent water quality protection. Mandating a one size fits all approach certainly makes enforcement easier, but the purpose of

regulations is not to ease the life of regulators. Buffers should be field specific and comply with NRCS Standards and Practices, PERIOD.

Likewise, there is no technical support from the research literature that a 100' setback is required for water quality on any given field. We are faced again with a regulatory approach designed to make life cushy for regulators at the substantial expense of producers. Further, since this standard applies to irrigation ditches, very large acreages are effectively being removed from production for no real measurable gain in water quality performance. Again, compliance with NRCS Standards and Practices which allow individual producers and specific site conditions to control appropriate areas for land application of nutrients provides strong water quality protection on a site specific basis. Your one size fits all approach by very definition takes the worst risk scenario of a fraction of a percent and applies a standard necessary there to the other 99.9% of the land area where it is not needed or appropriate. The enormous economic implications of this proposed standard, combined with the lack of documented need for such a draconian regulation should have kept this from even being part of your draft proposal.

Page 22 S5. Monitoring: It is unclear what records will be required in this section. Specify in the next draft for each item what needs to be recorded, how and when.

S5.B What is the technical basis, the research upon which ECY is relying in setting these standards for manure sampling?

It seems to me that just referring to the PNW0533 bulletin, or "other appropriate method" would wonderfully clarify and simplify this section.

Page 24 3. Manure analysis

There is absolutely NO TECHNICAL BASIS to require Organic Matter testing - by definition all a manure sample contains is WATER, AIR, ORGANIC MATTER and trace amounts of soil. This is a foolish waste of time and money and provides NO information useful for calculating land application rates. PH is only useful when land applying to very acid or alkaline soils (Below 5.0 or above 8.0). Another useless expenditure.

TKN is perhaps the LEAST useful measurement of Nitrogen - does not allow a producer to calculate land application values. Analysis for NH₃ and NH₄ are much more useful and appropriate.

Phosphorus testing, along with Potassium testing, is very useful for land application/crop nutrient purposes, but has little value for ECY in the regulatory scheme, especially on the East side.

Page 25

S5.C Soil Sampling Options: Simplify this section by simple referral to the U of I Soil Sampling Extension Bulletin, or other regionally or nationally recognized sources.

2. Soil Sample Analysis: Again, OM testing is expensive and unnecessary! TKN is not the best predictive tool for Nitrogen, measuring NH₃, NH₄ and NO₃ testing has far better value for calculations of land application rates and meeting planned crop requirements. Please review your own Document 02-02-002, published January 2002 "Effects of Land Applications of Dairy Manure and Wastewater on Groundwater Quality". Here you selected appropriate parameters for testing, NONE of which included TKN for soils or water sampling, ONLY for nutrient/manure samples.

Page 24 3. Manure Sample Analysis: Again delete reference to TKN, test for NH₃ and Phosphorus only; I find the addition of Potassium testing helpful for calculation of land application rates. Testing the OM of a material largely OM seems completely unnecessary.

S5.C Soil Sampling Options: Delete reference to 2nd and 3rd foot samples. 0-12" is the industry standard. I suggest ECY contact and survey the 5-7 largest soil labs and confer with their experts. I suspect they will find that over 90% of their samples submitted by producers, consultants, fertilizer

dealers and others are 0-12". Given the very large economic stakes - BILLIONS of dollars of crops, you must therefore assume we know something ECY does not: There is not good correlation with 2' and 3' samples with crop uptake, utilization, efficiency of nutrients. THAT IS WHY THE FARMING INDUSTRY, NOT COMPOSED OF IDIOTS, DOES NOT UTILIZE THESE DEEPER SOIL TESTS; THEY ARE NOT ACCURATE ENOUGH, AND DO NOT CORRELATE EFFECTIVELY ENOUGH WITH CROP OUTCOME TO BE USED.

Whatever ECY thinks they know about water quality and depth of sampling required on irrigated agricultural fields, you have apparently failed to consult with soil science, agronomy, horticulture and related experts about how to properly design a soil sampling regime.

It also seems appropriate to remind ECY that the cost of taking a single 0-12" sample and having it analyzed is about 25% of the cost of your proposed program. (it costs more to go deeper, takes more time and effort). So in one fell swoop ECY, if this stands, will have QUARUPLED the cost of soil testing for producers. WHERE is the technical data that this is a cost effective, certain way to measurably improve water quality? Please refer to your Publication 02-03-002 where a MUCH more appropriate matrix/threshold level of N is utilized:

(cut and paste directly from this publication)

Soil Nitrate Relative Risk Scale
 Soil Nitrate
 Concentration Relative
 (pounds N/acre) Risk
 0 to 40 Low
 40 to 80 Medium
 80 to 160 High
 >160 Very High

Page 25/26 S5.D Monitoring Beyond Permit Requirements: It is entirely unclear to me why any producer would "elect" to monitor as described in this section. Will this be imposed at the discretion of ECY at some time in the future in a "non elective" manner?

Page 26/27 Record Keeping I recommend ECY WORK WITH Producers and their experts to develop a standard compliant template. To do otherwise is to invite accusations of improper or inadequate records by Producers. The key here is to WORK WITH producers to slim and streamline this to the basics only.

ECY should recognize that some of the parameters suggested are do not appear to have any correlation with water quality. Some suggested parameters have no scientific basis or procedure or equipment available - for example how does a producer measure the amount of solids in a liquid storage basin? Most of this would be by visual estimates, not very reliable data.

Page 27, 28:

S6.B Land Application Record Keeping: Strike this entire section and replace with SAME RECORDS AND FORMAT AS PROVIDED BY WSDA under RCW 90.64. Why change something producers have and are familiar with? This has all the information ECY would desire.

Page 28 S6.C Records retention: Simplify, state minimum 5 years. Unnecessary to add in anything relating to unresolved litigation; State and Federal law and court rulings already have this covered, this is unnecessary.

S7.A This requirement is unnecessary and represents an invasion of privacy. See prior comments, MPPP is unnecessary, all the important elements are currently available under the DNMP/RCW 90.64. ECY makes no argument and has provided no reasonable justification, or scientific data to suggest that the

stand they seek to impose will or even could result in better water quality than the current standard based on NRCS Standards and Practices.

Page 29: S7.B, 2: Nutrient Budget report. ECY should engage with the NRCS, Conservation Districts and private industry consultants to DEVELOP the reporting form or approved format.

S7.C DELETE this is completely redundant and was made totally unnecessary as a result of the detailed Spring, 2015 survey conducted by WSDA. Simply refer to that data, and especially DON'T require producers to SPECULATE on the record about things which may not be known (in detail, accurately) like depth to groundwater. ECY can more easily access their own files and look at area well logs to get more scientific data in this regard, rather than forcing producers who are NOT groundwater experts to guess.

Page 30 5. Remove reference to MPPP, substitute as discussed previously with the already existing, proven DNMP (RCW 90.64)

Page 33 B. Remove language about failure to disclose. This puts the producer in the position of having to guess what ECY "wants" or "needs" or "requires". The permit application, inspections, and annual reporting are sufficient. If ECY fails to ask for certain information it later wants, a simple request in writing with 15 days to respond is sufficient.

D. This is overly broad language. Limit this to infractions which result in an investigation, due process and a legal determination PRIOR to dropping the hammer. As it is currently, vaguely worded, far too much is left open to individual interpretation.

G5. A. Replace this language with language linked to the NRCS BMP's, Standards and Practices, which go through an updating process every 5 years. Many times new technologies that "fix" one problem have unintended, and undesirable effects elsewhere. Only technology which has a proven track record, and is operationally rational and economically viable should be considered under this provision.

D. Unacceptable to WHOM? Who sets this evolving standard? What is the minimum scientific and legal criteria to trigger this provision? All of this must be fully explored and detailed. I would highly recommend that you include the industry you are regulating in this discussion. With over 500 producers state wide, there are thousands of man/years of knowledge, training, education and experience available to ECY to assist in this entire draft re-write process. The offer has been extended, only a fool would not agree to a close working relationship on technical and practical matters.

G6. Reporting cause for modification. This provision appears counter to ECY's stated goals of encouraging (requiring) new technology and or operational/physical plant changes. Remove the provision calling for a NEW application fee in order to ENCOURANGE and not DISCOURAGE operators from substantial improvements.

G9. Compliance with other laws and statutes: Refer to earlier comments. ECY needs to consider ALL applicable laws in the generation of this permit, including provisions which under the Constitution call for EQUAL PROTECTION under the law. Courts have routinely struck down regulatory schemes which target one call of people but fail to treat them equally. Here in this instant case, ECY is contemplating placing major restrictions on basic farming systems, but ONLY on those fields owned or leased/controlled by CAFO operators. This is clear discrimination and disparate treatment. ECY is likely to be engaged on this point legally, and with serious economic consequences for ALL TAXPAYERS who are forced to fund the Washington State AG's office tasked with defending ECY when their actions place others in substantial legal and financial jeopardy.

Page 35 G14. Penalties: Add to this a provision of equal compensation for all CAFO permit holders who are cited under this permit, but ECY does not ultimately prevail. Costs, including legal costs shall be

awarded to any successful party who appeal a violation/fine under this section. What's good for the goose is good for the gander.

Page 36: G16. Appeals . Why is there a reference to the Mosquito control permit? What does that have to do with this permit? Remove all reference to Mosquito Control and add CAFO general permit G18. Strike the 180 day and instead substitute 90 days as the deadline for reapplication.

Concluding Remarks

It would be wise for ECY to spend some quality time with whomever your assistant AG is to consider the following ENORMOUS problem with virtually every element of this proposed DRAFT CAFO permit: I can clearly see that you are taking a certain regulatory approach which at it's very heart is in fact not only unconstitutional, but morally bankrupt as well.

This IS the greatest country on God's green earth....and a very important part of that is the strong protections afforded in not just the Constitution and Amendments, but in the very detailed, broad collection of statutes on the Federal level which are crafted to do one VERY IMPORTANT THING: Insure that each and every citizen is treated EQUALLY and without prejudice under the law. Here, you have laid out a very clear regulatory scheme which regulates and imposes harsh economic penalties on one CLASS of people, folks who in association with their CAFO operation also farm crops. As detailed in my comments prior in this document, it is my professional opinion that compliance with the proposed soil nitrate standards at 1', 2' and 3' will result in a very serious reduction in yield and quality of common forage crops. Forcing one group of farmers to operating at a 20% to 30% loss compared to all their neighbors on all four sides can be neatly described in a single word; ***Discrimination***. I know of absolutely no legal basis where you can so discriminate, particularly when there are such dire economic consequences. Either you will have to concurrently propose regulations for ALL farming of an EQUAL nature, or be prepared to face the consequences in front of the appropriate court(s). Please re-think this entire proposal in this regard; Industry, Science and the General Public all would not be on your side in any such litigation. Taxpayer resources are limited, so please don't squander on this proposal; send it to the circular file for the next draft.

Finally, I will urge ECY to AGAIN find EXPERIENCED, BOARD CERTIFIED, Crop Science or Agronomy experts to assist you in this next draft. You may be engineers, and arguably skilled in that limited area. Until and unless you acquire - by hiring or contracting out such expertise, I see it as unlikely that you will be able to generate a coherent, science based permit, most especially on the land application and soil sampling issues.

Yours Very Truly,



Stuart A. Turner, CPAg, CCA
Turner & Co., Inc.