Jean Mendoza

Attachments from email

Whatcom Conservation District

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August 2, 2013

Washington Dairy Products Commission
Washington Dairy Center
4201 198th St. SW
Lynnwood, WA 98036

Attn: Janet Lester and Celest Piette
RE: Scientific literature review

Dear Washington Dairy Products Commission,

As per your request, I have conducted a non-bias, scientific review of the best available literature assessing the potential for human health effects due to the application of dairy manure during times of burn bans in the Yakima Basin. That review, entitled "*Review: Summary of the Existing Science Regarding Public Health Effects from the Spreading of Dairy Manure, With an Emphasis on Effects in Eastern Washington and the Yakima Basin*" is enclosed.

My overall finding and professional opinion is that based on scientific principles, understanding, and review of available literature, that there is no validity to disallowing manure application during times of burn bans. Furthermore, the literature does not support the conclusion that dairy manure applied at agronomic rates to farm fields is a significant hazard to community health in the Yakima region. With the use of best management practices, any potential concerns with air pollutants from manure application can be actively mitigated to avoid potential transport to neighboring areas.

Please feel free to contact me at any time for follow up, expansion, or question of any of the information or opinion provided.

Respectfully,

Nichole M. Embertson, Ph.D.
Nutrient Management and Air Quality Specialist
Whatcom Conservation District
O: (360) 354-2035 x 126

Enclosed: "*Review: Summary of the Existing Science Regarding Public Health Effects from the Spreading of Dairy Manure, With an Emphasis on Effects in Eastern Washington and the Yakima Basin*"

cc: Jay Gordon and Dan Wood, Washington State Dairy Federation

Review: Summary of the Existing Science Regarding Public Health Effects from the Spreading of Dairy Manure, With an Emphasis on Effects in Eastern Washington and the Yakima Basin

August 2, 2013

Nichole M. Embertson, Ph.D.
Nutrient Management and Air Quality Specialist, Whatcom Conservation District

Purpose and Scope

Community members in Yakima, WA raised concerns over perceived health implications of emissions from application of dairy manure during burn bans in the Yakima Basin. They have requested that spraying or spreading of manure (all livestock species) be disallowed during times of burn bans. It is postulated that the community members believe that there is a link between burn bans, manure application, and community health. The purpose of this review and professional assessment is to examine this postulation and assess its validity.

The scope of this review focuses only on dairy and dairy manure. Additionally, this review only looks at the emissions from the application of dairy manure to crop land, not emissions from the dairy operations themselves (i.e., housing, manure storage, etc.).

Summary Opinion

It is the assessment of this reviewer, based on scientific principles, understanding, and review of available literature, that there is no validity to disallowing manure application during times of burn bans. Furthermore, the literature does not support the conclusion that dairy manure applied at agronomic rates to farm fields is a significant hazard to community health in the Yakima region. With the use of best management practices, any potential concerns with air pollutants from manure application can be actively mitigated to avoid potential transport to neighboring areas.

Overview of Yakima Dairy Manure Application Practices

The dairy industry in the Yakima Basin area of Washington State is composed of primarily large scale (average size is 1,200 milk cows) drylot operations. Manure is handled as a liquid when collected from freestall barns, milking parlors, and/or feed alleys and stored in single or multiple stage lagoon systems. Often times the collected liquid manure is sent through a solid separation process where solids are removed from the liquid stream and stockpiled, composed, or dried. The majority of liquid manure is stored and then used on farm as a fertilizer product for crops. Solid manures are recycled on-farm as stall bedding, exported off farm (the majority, >80%, is exported to other agricultural industries), or applied to farm fields. Following best practices, the majority of manure is applied to fields at agronomic rates using crop appropriate technologies. In the Yakima Basin, the primary crop rotation for dairy fields is a winter triticale/corn silage rotation. Other common crops grown in dairy production are corn, alfalfa, sudan grass (in rotation), and/or timothy hay. The crop type will dictate the manure application schedule and application technology. For the triticale/corn rotation, which comprises the majority of dairy

based crop land (>75%), manure is applied via injection (liquid) or incorporation (solids) prior to corn planting, and a drop hose irrigation or drag hose surface application of liquid manure to triticale. For triticale, application is generally conducted once in late Feb/early March and post cutting in April with dilute manure (low concentration) using a low-pressure drop hose system. For corn, a heavy application is conducted just prior to planting in May/April using injection or incorporation and a second application using dilute manure in June. A post-harvest, pre triticale planting application is conducted using no-till liquid application technologies in September/October. Forage crops (excluding alfalfa) are usually applied to after each cutting (Feb/Mar, July, and Sept) throughout the growing season using drop hose irrigation or near-surface application technology. A small percentage (<5%) of other crops and less desirable application technologies such as honey wagons (tanks) and Big Gun sprinklers are used for application, but the land acreage applying these technologies is small (<3%). All dairy operations must apply nutrients (i.e., manure) according to their Dairy Nutrient Management Plan which outlines agronomic guidance and application restrictions. Restrictions include when not to apply (i.e., wind >10 mph, inversions, high temperatures, etc.), what local criteria (i.e., schools, neighbors, wells, etc.) and setbacks need to be taken into consideration when applying, and best methods for reducing nutrient losses via volatilization.

This information on application timing and technology is vital in assessing the potential emissions from land application of manure. Different technologies can vary in volatilization losses by 50% (i.e., Big Gun verses injection), and timing influences the degree to which emissions may occur due to meteorological conditions (i.e., temperature, wind speed, etc.). In general, the technologies, timing, and application restriction guidance followed by the majority of dairy operations in Yakima meet the best management practices guidelines encouraged by University guidance and research for maximum reduction of emissions during application for ammonia, dust and odor (Smith et al., 2009; Webb et al, 2010; Rotz et al., 2011; Brandt et al., 2011).

Burn Bans and Manure Application

Conditions that constitute a burn ban are defined in RCW 70.94.473, but typically a burn ban is put into effect when atmospheric conditions are predicted to cause fine particulates ($PM_{2.5}$) in the atmosphere to exceed a specified value due to decreased mixing and subsequent stagnation of air. Burn bans are instated to protect area residents from the negative health effects of an increase in particulates in the local atmosphere. On assessment of burn bans in Yakima within the previous five years (2008-2013), it is observed that the majority of burn bans occur during the winter months (October-February) when seasonal temperature inversions are common, or during the height of fire season (August) when atmospheric particulates are increased due to wildfires and air stagnation is possible. The Department of Ecology (ECY) lists woodstoves as the number one contributor to burn bans in the winter months, and wildland fires in the summer due to $PM_{2.5}$ production; conclusions which are supported in other, similar regions (Ward and Lange, 2009). Agricultural practices, such as manure application, which does not typically occur outside of the growing season during the winter months, do not directly contribute $PM_{2.5}$ to the atmosphere. Rather emissions from manure and nitrogen-based chemical fertilizers are considered a precursor to $PM_{2.5}$ when ammonia from applied nitrogen volatilizes and comes in contact with available nitrous and sulfuric acid gases that are released into the atmosphere from vehicles and combustion processes (NOx and SOx) to form fine particulates through chemical reaction.

Depending on atmospheric conditions and geographic location, this pathway contributes less than 10% of the total secondary $PM_{2.5}$ production in the atmosphere (Hristiv, 2011).

In Yakima, the amount of ammonia volatilized in the winter from dairy manure application is comparatively very low. This is due to multiple factors. Primarily, manure is not typically applied from November to February to the crops grown in dairy production in Yakima, WA. When manure is applied, ammonia volatilization is variable based on manure type and concentration, application technology (losses range from 5% (injection or incorporation) to 50% (non-incorporated, surface applied) (AWMFH, 1998)), and weather conditions, particularly wind speed and precipitation (Misselbrook et al, 2005). Based on the typical manure application practices in the Yakima basin, the loss rate for ammonia during times of winter burn bans will be very low. Additionally, production of dust and odor will also be low in the winter months based on application technology type (irrigation type) and soil moisture (high) (Brandt et al., 2011). Ammonia volatilization is significantly reduced during cold weather due to a thermal reduction in biological and chemical processes in manure and the soil. Manure application and volatilization potential will increase during the hot summer months and losses will be greater due to converse factors, but burn bans outside of wildfires are not typical due to a lack of determinant meteorological conditions.

Emissions from Manure Application

Dairy manure is composed of a ratio of macro and micro nutrients. The primary ones being organic nitrogen, ammonia nitrogen, phosphorous, potassium, minerals, other organics, and pathogens such as fecal coliform. From an air quality perspective, the primarily concerns are with forms of nitrogen that can volatilize (ammonia), hydrogen sulfide produced during anaerobic storage of liquid manure, dust and bioaerosols from dry manures, and odorant compounds. The emission rate and concentration of each of these compounds is highly variable based on the type of manure (liquid, soil, compost), upstream manure management practices, manure application technology (i.e., fertigation, drop hose pressure, injection, surface application, aeration, etc.), meteorological conditions (i.e., wind speed, ambient temperature, relative humidity, etc.), soil temperature moisture and pH, vegetative surface cover, time of year in crop cycle, and more.

In relation to human health concerns and dairy manure application, the primary emissions we will look at are ammonia, course particulate matter (dust), and odor.

Ammonia and PM2.5. Ammonia is produced from applied manure when conditions such as temperature, pH, and oxygenation allow hydrolysis of urea (in urine) and urease (in feces and soil) to form ammonia gas. For land applied manure, this reaction is catalyzed by the increased surface area and exposure of manure to aerobic conditions on the soil surface. Ammonia volatilization typically peaks within hours to days of application depending on manure type (solid verses liquid), application technology, and meteorological conditions (i.e., wind speed, temperature, precipitation, etc.) (Amon et al., 2006; Hristov et al., 2009; Leytem and Dungan, 2009). Compared to manure, chemical based nitrogen fertilizers, used in almost all other agricultural cropping systems, can have a higher ammonia volatilization potential when not applied properly.

When in gaseous form, ammonia has a relatively short lifespan of a few hours and usually deposits near its source via wet (rain) or dry deposition depending on meteorological conditions. While manure does not directly produce $PM_{2.5}$, while still suspended in the atmosphere,

ammonia from manure can react with nitrous and sulfuric acids produced from vehicle and combustion processes (NOx and SOx) to chemically form $PM_{2.5}$.

Dust (PM10). Course particulate matter (PM_{10}), often times referred to as dust, is produced when mechanical action breaks down solid particles into smaller, mobile sizes. Dust is composed of a variety of compounds based on its nature and origin (i.e., soil, manure, etc.). Most course PM will settle out close to its origin depending on factors such as particle size, wind speed and direction, relative humidity, and temperature. The potential for production of airborne course dust from applied manure comes from dry/solid manures, compost, and aerosolized liquids and depends on the moisture content, application method, and particle size. In general, most studies show that the general trend is for a reduction in dust and bioaerosl concentration with distance from the source (Dungan, 2010). Transport of PM_{10} can vary from a distance of 40 feet with liquid manure application with a "Big Gun" sprinkler, while other methods such as a tank spreader failed to have transport up to 10 feet and injection showing no transport at all (Hutchison et al., 2008). Dry manure may transport to greater distances depending on wind speed and manure characteristics such as moisture and particle size. In general, application methods that have a larger droplet size or inject or incorporate manures, will have a low prevalence of creating dust and subsequent airborne bioaerosols (Millner, 2009). Studies have shown that odors, gases, and biological material can be attached to airborne course PM (Cambria-Lopez et al., 2010). However, while biologically derived aerosols (bioaersols), such as fecal and bacterial origin dust, may be present in manure applied to fields, survivability of pathogens through the manure storage period, treatment, and application process is low (McGarvey et al., 2004; Ravva et al., 2006; Grewal et al., 2006). Factors such as decreased relative humidity, increased temperature, and high solar irradiance, common conditions in the Yakima Region, as well as and increased oxygenation greatly reduce the survivability of microorganisms in applied manure (Dungan, 2010). The typical source of dust from agricultural practices comes from housing, grain harvesting, and airborne soil particles from tillage and traffic over dry and/or fallow crop fields rather than manure application (Lee et al., 2006). Dust emanating from these sources is regulated and must be limited via reasonable best management practices.

Odor. Odor is typically referred to as a nuisance pollutant, rather than criteria pollutant, because it is not characterized as a direct threat to public health by EPA and therefore not federally regulated. There is no argument that manure has an odor to it. However, characterization of the odor is very difficult. This is because odor is a highly variable compound composed of sometimes hundreds of individual odorants/compounds. The odor profile and intensity of a manure will vary depending on many factors including animal diet, manure handling practices, manure type, application technology, and ambient conditions (i.e., temperature, relative humidity, etc.). In addition, the offensiveness of and reaction to an odor will significantly differ between individuals making characterization difficult (Schiffman, 1998; Schiffman et al., 2004; Schiffman and Williams, 2005). Therefore, instead of discussing odorants as an individual air pollutant, we tend to talk about the major constituents of odors and address those directly such as ammonia, hydrogen sulfide, or volatile organic compounds (VOC).

Manure Application and Health Effects

All of the pollutants emitted by manure have the potential to effect human health, but the thresholds and concentrations at which those impacts can occur are typically very low away from their source. While there is a large database of studies related to the health effects of agricultural practices on farm workers, very few studies are available on the direct health effects of dairy

manure application on surrounding communities. In fact, a comprehensive review of scientific studies conducted by O'Conner et al. (2010) looked at the associations between animal feeding operations and measures of health of individuals living near animal feeding operations and found that there were very few applicable studies (0.2%) and no compelling evidence for a consistent, strong association between the clinical measures of disease and proximity to animal feeding operations. Additionally, the majority of studies conducted look at the emissions from the operational and housing facilities, not land application. The lack of relevant studies stems from the difficulty of conducting a scientifically relevant health related study that looks at multiple facilities and community areas, is long term, and is statistically relevant and replicable. Additionally, a study surveying quality of life characteristic of residents living near and far from animal feeding operations concluded that emotional considerations, not physiological ones, played a large part in perception of the impact of those facilities on health (Schmalzried and Fallon, 2007). Of the few relevant studies available, most are largely inconclusive and/or found no direct, replicable connection between farm exposure and health effects (Merchant et al., 2004; Heederik et al., 2007; Murayama et al., 2010). In fact, a study examining the exposure of residents in the Yakima Valley to airborne cow allergen, ammonia and PM found concentrations magnitudes below the Occupational Safety and Health Administration (OSHA) and National Institute for Occupational Safety and Health (NIOSH) standards for exposure limits (Williams et al., 2011). In some cases, children born on farms with constant exposure have lower incidences of diagnosed allergies than non-farm raise children (Merchant et al., 2004).

Pollutant Exposure Limits

In order to protect people from the detrimental effects of pollutants, the Occupational Safety and Health Administration (OSHA) and the National Institute for Occupational Safety and Health (NIOSH) have created exposure limits for different categories of people. Of the pollutants of concern with land application of manure, only ammonia and course dust have exposure limits. Odor does not have an exposure limit because it is compiled of a variety of different compounds, each with its individual exposure limits when applicable.

Ammonia. Due to the side effects of ammonia exposure, the American Conference of Governmental Industrial Hygienists (ACGIH) and National Institute for Occupational Safety and Health (NIOSH) has recommended an 8 hour maximum exposure limit of 25 ppm to protect against the chronic effects of ammonia exposure for those working in close proximity, such as on-farm workers. A 15 min short term exposure limit of 35 ppm has been established by ACGIH and also adopted by OSHA to reduce irritant effects of ammonia exposure (i.e. eye and upper respiratory tract irritation). Due to possible cumulative health effects over time, the recommended daily long term occupational exposure limit of ammonia for agricultural workers is 7 ppm (Donham et al., 2000) , and 300 parts per billion (ppb) for community exposure (this accounts for sensitivity in the elderly and infants) (Merchant et al., 2003).Downwind measures of ammonia from applied manure rarely exceed concentrations in parts per billion (ppb) (Williams et al., 2011) and will vary greatly based on application practices, as has been discussed.

Dust (PM10). The health concern over dust is from direct respiration. Permissible 8-hour exposure limits to total dust is 15 mg/m^3 (CAL/OSHA). No threshold limits have been set for bioaerosols in manure. If present in manure, bioaerosols have the potential to be transported from land applied liquid and dry manures. The transport distance will vary depending on wind speed, wind direction, relative humidity, temperature, manure application equipment type, and manure type (Dungan, 2010; Dungan and Leytem, 2011). Typically, the number of pathogens in the

manure decreases with storage length or treatment, or are killed upon exposure to temperature, sunlight and/or oxygen at application (McGarvey et al., 2004; Ravva et al., 2006; Grewal et al., 2006; Hutchison et al., 2008; Dungan, 2010), thus limiting the potential for transport during manure application.

Odor. The emission that has the strongest self-reported dose response is to odor; yet clinical measures showed no consistent association between odor concentration and reported symptoms (O'Conner et al., 2010), and no exposure limits are imposed for general odor (some individual odorants do have exposure limits). This is characteristic of psychophysiological response to odorants (i.e., the odorant compounds stimulate receptors in the nasal cavity which ultimately lead to the brain registering the response and producing a physiological response based on physiological determination). Studies have shown that the brain can produce a variety of various responses to odors based on the sensation/perception of the odor, and the chemical nature of the odorant (Schiffman et al., 2004), which makes addressing odor complaints very difficult. Common symptoms and complaints from exposure to odorants range broadly from watery eyes, throat irritation, headache, to nausea (Schiffman, 1998). The response rate by an individual will vary greatly based on previous exposure, learned behavior/association, perception of the effect of odorant (adaptation (reduction in response rate over time) verses sensitization (increase in response rate over time)), and general well-being (Schiffman, 1998; Schiffman et al., 2004; Schiffman and Williams, 2005). In many cases, individuals will report adverse effects of odorants well below the levels that cause irritation or toxicological symptoms (Schiffman and Williams, 2005).

Conclusion

Limited data is available on the direct effects of land application of dairy manure on public (not worker) health, but data extrapolated from studies looking at emission rates of ammonia, dust (including bioaerosol), and odor from land application methods, OSHA/NIOSH exposure limit thresholds, and dairy manure application practices in Yakima, concludes that there is likely no significant benefit to public health from exclusion of land application of dairy manure in the Yakima Region, particularly during burn bans. Of the emissions from land applied dairy manure that have the potential to effect local atmospheric conditions and communities, only ammonia is of significance due to its potential to react with nitrous and sulfuric acids in the atmosphere to chemically form $PM_{2.5}$. Of lesser significance is course particulate matter and odor which tend to be either low due to the moisture content and application methods of manure or not a substantiated threat to human health in the Yakima Region, respectively. It is recommended that the use of best available land application practices continue to be employed with land applying dairy manure in the Yakima Region to reduce any excess emissions.

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Study Finds Elevated Ammonia Levels at Lower Yakima Valley Site Near Large CAFO Dairies

May 10, 2019

The Friends of Toppenish Creek (FOTC) share with the public the results of yearlong air testing for ammonia at a site in the Lower Yakima Valley (LYV) near a large concentrated animal feeding operation (CAFO) dairy. The study was paid for with a grant from Legends Casino and private donations.

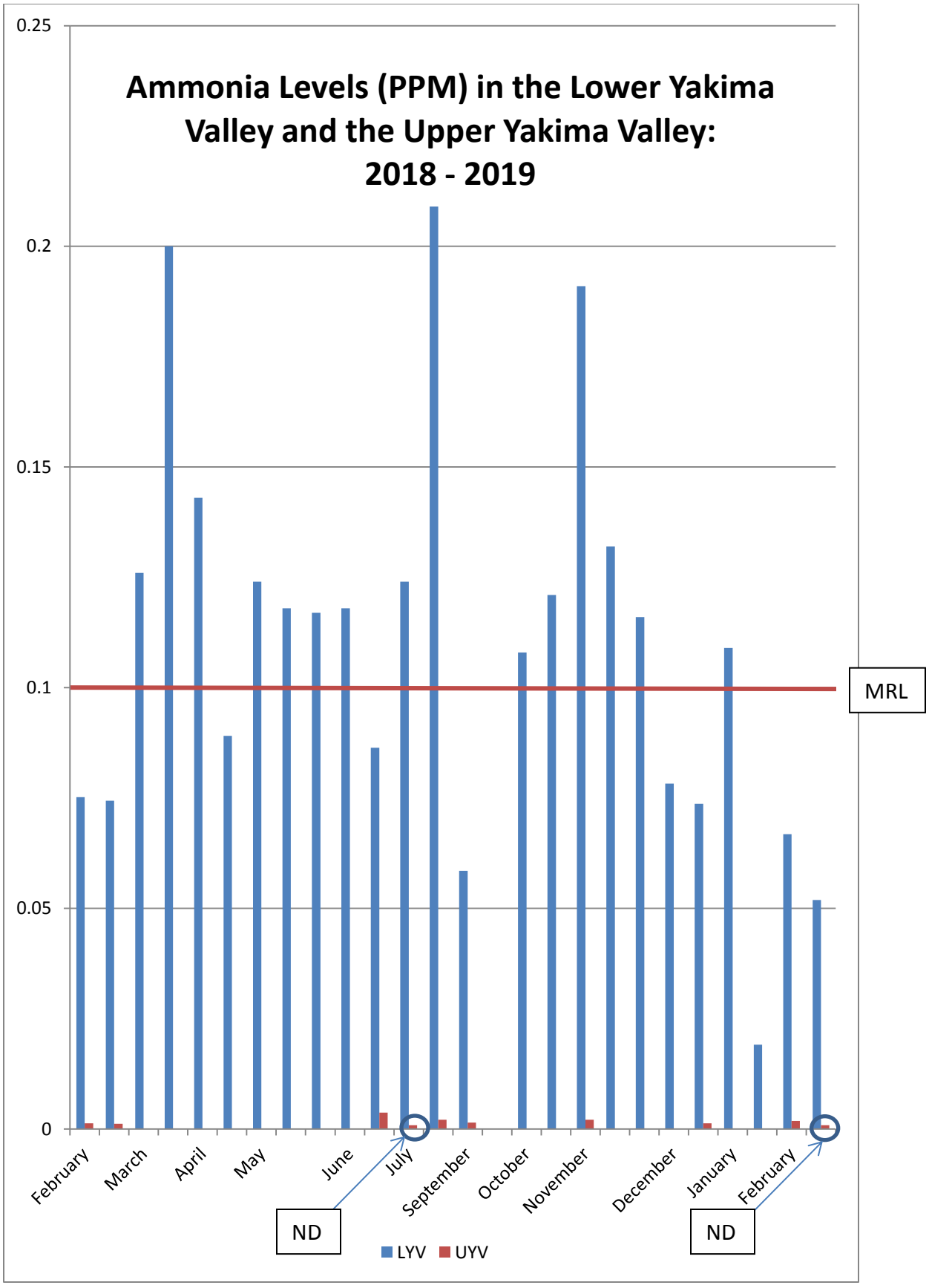
The FOTC study measured average ammonia levels for two week periods from February, 2018 to February, 2019. Due to the type of sampling we do not know the peak ammonia levels. Control samples were measured at a site in the Upper Yakima Valley, far from any CAFOs. The average of all LYV samples in the study exceeded the Minimum Risk Level (MRL) for chronic ammonia exposure.

The average of all samples at the LYV site was 0.1092 parts per million (ppm) with a range of 0.0191 ppm to 0.209 ppm. The average of all samples at the UYV site was 0.0016 ppm. Ammonia levels in the lower valley averaged sixty eight times higher than those in the upper valley.

The Agency for Toxic Substances and Disease Registry (ATSDR) at the Center for Disease Control (CDC) has determined that the Minimum Risk Level (MRL) for long term (≥ 1 year) exposure to ammonia is 0.10 ppm. According to the CDC, "An MRL is an estimate of the daily human exposure to a hazardous substance that is likely to be without appreciable risk of adverse non-cancer health effects over a specified duration of exposure."

The FOTC data agrees with findings from a University of Washington study of asthmatic LYV children that found 24 hour ammonia levels ranging from .00027 ppm to .3175 ppm. That study concluded (page 84), "Ammonia may serve as a marker for the complex airborne emissions from CAFOs, and the observed decreases in lung function may have resulted from exposure to one or more co-pollutants with established respiratory system toxicity, such as endotoxin, particulate matter or hydrogen sulfide."

The FOTC data agrees with the results of a Yakima Air Winter Nitrate Study by Ecology that found high levels of ammonia lead to high levels of fine particulate matter in Yakima County. That study stated (page 111), "Given the backdrop of excess gaseous ammonia, there is usually sufficient reactive nitrogen in the valley to produce elevated levels of particulate nitrate if the right meteorological conditions take hold."


Ammonia Levels (PPM) in the Lower Yakima Valley and the Upper Yakima Valley: 2018 - 2019
0.25
0.2
0.15
0.1
0.05
0
MRL
February
March
April
May
June
July
September
October
November
December
January
February
ND
ND
LYV
UYV

Date	LYV µg/m³	LYV ppm	UYV µg/m³	UYV ppm
2/8/2018	56.4	0.0752	1.0	0.00133
2/22/2018	55.8	0.0744	0.9	0.00120
3/8/2018	94.6	0.126		
3/22/2018	150	0.200		
4/5/2018	107	0.143		
4/19/2018	66.8	0.0891		
5/3/2018	92.8	0.124		
5/17/2018	88.5	0.118		
5/31/2018	87.6	0.117		
6/14/2018	88.3	0.118		
6/28/2018	64.8	0.0864	2.8	0.00373
7/12/2018	93.2	0.124	ND	0.0009
7/26/2018	157	0.209	1.6	0.00213
9/20/2018	43.9	0.0585	1.1	0.00147
10/4/2018	81.1	0.108		
10/18/2018	90.4	0.121		
11/1/2018	143	0.191	1.6	0.00213
11/15/2018	99.1	0.132		
11/29/2018	86.8	0.116		
12/13/2018	58.7	0.0783		
12/27/2018	55.3	0.0737	1.0	0.00133
1/10/2019	82	0.109		
1/24/2019	14.3	0.0191		
2/6/2019	50.1	0.0668	1.4	0.00187
2/20/2019	38.9	0.0519	ND	0.0009

This bar graph depicts ammonia levels gathered by the Friends of Toppenish Creek from a home in the Lower Yakima Valley and a control home in the Upper Yakima Valley in 2018 and 2019. The red horizontal line is the ATSDR Minimum Risk Level of 0.1 ppm.

Data was reported in micrograms per cubic meter. Conversion to parts per million – PPM was performed using the Lenntech Calculator at https://www.lenntech.com/calculators/ppm/converter-parts-per-million.htm

* For graphing purposes we entered values of .0009 ppm for non-detect (ND) readings in the Upper Yakima Valley on 7/12/2018 and 2/20/2019. The Inter-Mountain Labs reporting limit for ammonia is .0008 micrograms per cubic meter or .00107 parts per million.

Quality Assurance:

The FOTC study used a low-cost, passive, radiello diffusion sampler that was developed by the National Atmospheric Deposition Program (NADP) for their Ammonia Monitoring Network (AMoN). Product data is available at https://www.sigmaaldrich.com/technical-documents/articles/analytical/environmental/air-sampling-ammoniaradiello.html

FOTC followed a modified EPA Method 325 sampling protocol. (There was only one site and one control site in our study, while the EPA Method 325 recommends multiple sites.) Temperatures were recorded using WA State Dept. of Ecology web-based data.

Samples were sent in batches to Inter-Mountain Labs in Sheridan Wyoming and analyzed under standard lab protocols. All Quality Control parameters met the acceptance criteria defined by EPA and Inter-Mountain Laboratories.

One sample, collected on September 6, 2018, showed no readings and was rejected for summary data analysis since this made no sense in this study setting.

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January 31, 2019

Maia Bellon
Director WA State Dept. of Ecology
PO Box 47600
Olympia, WA 98504-7600
maia.bellon@ecy.wa.gov

Dear Director Bellon,

On June 10, 2016 the Friends of Toppenish Creek asked the WA State Dept. of Ecology to undertake a formal review of the Yakima Regional Clean Air Agency (YRCAA) as authorized by RCW 70.94.405. On August 31, 2016 your office responded with reasons for not conducting a review at that time. This letter is a follow up to your response.

In 2016 Ecology stated:

> *Ecology and its partners welcome a dialogue about air quality in the Yakima Valley. As more information becomes available, we are willing to engage with you in the future to review your concerns.*
>
> *We vigorously encourage the YRCAA to pursue steps to bring relief to impacted citizens in the Yakima Valley. We also encourage all residents who are impacted by dairy-related air pollution to remain engaged in improving air quality in the Yakima Valley.*

The Friends of Toppenish Creek have done our best to stay engaged. This is a time consuming task with few successes. We have brought factual information to the table time and again. Our words have been dismissed without any acknowledgement of their validity.

Grandview resident Kathleen Rogers has decided to stop attending meetings of the YRCAA Board of Directors. In October, 2017 she informed the Board:

> *Dear Sirs,*
> *Something is happening to YRCAA and I'm not sure you are aware of the impact. Keith Hurley is becoming a dictator not a director. He is dictating who and what can come to you the board by eliminating public comment rights, and also suggesting he is the only one allowed to speak on any subject a citizen may have brought to his attention.*
> *He is no longer allowing Hasan and others to attend or speak. The very science behind this whole organization! It's now being run by a "physical fitness" graduate!*
> *We are better than this, the board is better than this. YRCAA has lost direction, and the reason for its existence.*
> *A $1,000,000.00 budget was granted for what?*
> *I believe the board needs to take a deep long look at what is happening.*
> *I'll never attend again until I know the citizens can be heard and can participate!*
> *Thank you for your time,*
> *Kathleen Rogers*

Ecology listed three sound reasons for not investigating YRCAA in 2016, namely:

A. *The YRCAA has taken actions to address emissions from Yakima Valley dairies*
B. *Air monitoring efforts and scientific studies are underway*
C. *YRCAA has taken steps to address questions concerning possible conflict of interest with the YRCAA Board of Directors*

We will provide recent information on each of these reasons below. But first let us highlight the difference in expectations for the people we try to represent and for those who administer policy from the Cities of Yakima and Olympia.

Last fall there were weeks when the air in the Yakima Valley was not just unhealthy but hazardous to breathe. This was due to wildfires and occurred during harvest. Farmworkers continued to work 16 hour days seven days a week in order to bring in the crops. During

this time Yakima dairies continued to spray manure into the air. Those who "represent the public" sat in their air conditioned offices and suggested that maybe the workers should wear face masks. People with bureaucratic power made decisions that will, in the long run, shorten the lives of those they appear to consider insignificant. This is wrong.

Our technical concerns are outlined below.

Sincerely,

Jean Mendoza

Executive Director, Friends of Toppenish Creek

3142 Signal Peak Road
White Swan, WA 98952

Yakima County Air Quality Issues, the YRCAA and Ecology Response

A. The YRCAA has taken actions to address emissions from Yakima Valley dairies

In September, 2018 the YRCAA rescinded the Air Quality Management and Best Management Practices Policy for Dairies. The YRCAA has stopped addressing emissions from Yakima Valley dairies. Here is a timeline of related events:

2002: YRCAA approved Confined Beef Feeding Operations Dust Control Policy

2002: YRCAA approved Confined Heifer Operations Dust Control Policy

2010: YRCAA discussion re AQMP for Dairies begins

2011: YRCAA QMP Pilot project begins – Citizens were excluded from planning

2013: AQMP for Dairies adopted by YRCAA Board – See citizen comments Attachment 30

2014: First AQMP for Dairies Report to YRCAA Board – only two members attended the presentation – See Attachment 31

2015: No Report

2016: No Report

2017: No Report - YRCAA did not follow the AQMP for Dairies Plan; did not inspect dairies as promised - See Attachment 11

2018: AQMP for Dairies rescinded.

See Attachment 32 for additional details.

In short, the YRCAA:

1. Created an AQMP for Dairies that had no air monitoring
2. Did not inspect dairies as promised
3. Did not report to the YRCAA Board of Directors as promised
4. Ignored input from citizens who donated their time on the YRCAA Ag Task Force
5. Provided false information to the YRCAA Board regarding Ag Task Force meeting discussions and citizen statements at those meetings.

Fourteen years ago Les Ornelas, YRCAA Executive Director, speaking to the WSU AD Workshop in Sunnyside, WA stated:

> *Now, I receive the largest number of odor complaints currently for my jurisdiction against feedlots, dairies, other kinds of chicken farmers, and other sorts of activities*

like this. We have people in the field who have been trained to evaluate odors, to be able to discern from a level 1, 2, 3 or 4 (4 typically is the one that causes a gag reflex). We go out and respond to all these numerous complaints every year and we have not yet issued a citation to any of the dairy people on odors in Yakima County, even though we have hundreds and some years over a thousand complaints.

Since Mr. Ornelas made this statement nothing has changed. YRCAA has never issued a citation against a dairy for odor or for emissions that endanger human health. The only citations have been for violation of burn permits.

B. Air monitoring efforts and scientific studies are underway

Ecology cited two pending studies in your letter.

1. A study of air winter nitrates in the Lower Yakima Valley using a monitor in Sunnyside has been completed. The Main Findings in the five page report, *Analysis of Aerosol Nitrate in the Yakima Valley in the Winter of 2015/2016*, are:
    a. *Average aerosol nitrate levels were lowest in Yakima and highest in Toppenish, with Sunnyside in between*
    b. *On average, nitrate accounted for about one quarter of the PM 2.5 mass at Yakima and Toppenish, and a third at Sunnyside*
    c. *Elevated nitrate levels occurred in both valleys simultaneously, on days with high relative humidity, low temperatures and low winds. This suggests common sources of aerosol nitrate precursors in both valleys.*
    d. *Nitrate levels in the upper valley were slightly higher than the average of the previous 5 winters.*
    e. *While Yakima experienced slightly lower PM 2.5 than recent years, Toppenish had more PM 2.5.*

    Please note that the YRCAA has failed to post either the original YAWN Study or the second study from the LYV on the YRCAA web site. See Attachment 20. FOTC considers this a deliberate attempt to hide important information from the public.

2. In the Fall/Winter of 2014 and the Summer/Fall of 2015 the Agency for Toxic Substances and Disease Registry (ATSDR) conducted air sampling at homes on the Yakama Reservation near concentrated animal feeding operations. Your letter stated that the results of this study were expected in the spring of 2017. It is now near the spring of 2019 and the people of the Lower Yakima Valley are still waiting. FOTC believes that powerful interests have succeeded in preventing the publication of this study. We have submitted a request for information under the Freedom of

Information Act. By the time the data is released it will be nearly five years after the testing and critics will be able to say the data is no longer valid.

Ecology stated in your letter, "While there are numerous studies concerning impacts to farm workers and people who live on farms, there is a lack of data specifically concerning impacts to citizens living near dairies." This is not entirely correct:

1. Williams et al (2011) measured bovine allergens in homes near Yakima County dairies. They found:

   These findings demonstrate that dairy operations increase community exposures to agents with known human health effects. This study also provides evidence that airborne biological contaminants (i.e. cow allergen) associated with airborne particulate matter are statistically elevated at distances up to three miles (4.8 km) from dairy operations.

2. Loftus et al (2015a) studied children with asthma in the Lower Yakima Valley. They found:

   This study provides evidence that PM2.5 in an agricultural setting contributes to elevated asthma morbidity. Further work on identifying and mitigating sources of PM2.5 in the area is warranted.

3. Loftus et al (2015b) studied children with asthma in the Lower Yakima Valley. They found:

   Ammonia concentrations were elevated in this community and strongly predicted by proximity to animal feeding operations. Ammonia's association with acute lung function decrements in children with asthma in the surrounding community may be causal or, alternatively, ammonia may be a marker for other pollutants from animal feeding operations associated with respiratory effects.

4. Joo et al (2015) measured emission of air contaminants from two large dairy barns in the Lower Yakima Valley. The found:

   The overall average daily NH^3 emissions ranged from 15.1 to 36.7 g d^{-1} AU^{-1} (20.3 to 49.5 g d^{-1} cow^{-1}) with a mean of 21.6 g $d^{-1}AU^{-1}$ (29.0 g $d^{-1}cow^{-1}$). Emissions of H2S, on the other hand, ranged from 0.0 to 1.5 g $d^{-1}AU^{-1}$(0.0 and 2.0 g $d^{-1}cow^{-1}$) with a mean of 0.51 g $d^{-1}AU^{-1}$ (0.69 g $d^{-1}cow^{-1}$).

5. There is abundant research regarding the impact of concentrated animal feeding operations on human respiratory health. See Attachment 32

6. The Friends of Toppenish Creek are currently in the last stages of collecting ammonia samples from a site in the Lower Yakima Valley. We will share the results with Ecology when that study is complete.

In March of 2017 the YRCAA staff presented the YRCAA Board with a $14,404 proposal to study ammonia levels at four sites in the county. In spite of the fact that five citizens spoke in favor of the project and only the dairy federation spoke against it the project was rejected by the YRCAA Board. One member of the Board, Norm Childress who is now a county commissioner, argued that 'If we find a problem, then we have to do something about it.' Dr. Steven Jones, who earns a significant amount of his income from the dairy industry participated in the discussions and complained that the citizens had made personal attacks against him. See YRCAA Board Meeting Summaries for March & April, 2017.

C. YRCAA has taken steps to address questions concerning possible conflict of interest with the YRCAA Board of Directors

In 2016 the Friends of Toppenish Creek complained to the YRCAA Board of Directors that Board Member Steven Jones has a conflict of interest and should not be allowed to serve on the board or vote on issues related to the dairy industry because he derives a significant portion of his income from dairy. See Attachments 8 & 10

The question was presented to the WA State Attorney General's Office. That office stated that

> *RCW 70.94.100(6) and WAC 173-400-220(2) do not prevent a board member of an air pollution control authority from holding a position on the board if he/she earns a portion of his/her income from an industrial sector that the board regulates. However, a majority of the members of the board must represent the public interest, and must not earn a significant portion of their income from the industries subject to regulation.*

However,

> *If a board member has a potential conflict of interest, the member may not participate in the matter in which the conflict exists.*

And

> *If a board member has a potential conflict of interest, the member may not vote on an action involving the conflict.*

Please know:

1. Dr. Jones was one of two YRCAA board members on the selection committee for a new YRCAA Executive Director in 2016. See Attachment 34
2. Dr. Jones was one of two board members who received the 2014 AQMP for Dairies Report
3. As noted above, Dr. Jones participated in the 2017 discussions regarding testing of the ambient air for ammonia, a known emission from dairy operations
4. Dr. Jones recused himself from discussion of the AQMP for Dairy Operations at the August, 2018 YRCAA Board meeting. But he seconded the board motion to rescind the policy at the October meeting and voted on the measure.

FOTC states here that the YRCAA Directors have placed themselves above the law by permitting these actions. It is extremely difficult to stay engaged with an agency that acts as though they are supreme rulers and have the authority to override federal and state regulations while ignoring the wishes of the people.

In addition to Ecology's three 2016 reasons for delaying action:

D. The Yakima Regional Clean Air Agency has misinterpreted the role of public participation in the Federal and State Clean Air Acts (CAA).

The U.S. Environmental Protection Agency (2018) states:

> *For regulatory programs, EPA often has discussions early in the rulemaking process with government partners (federal, state, local and tribal) and with interested parties such as affected industries, environmental groups, and communities. After a rule is complete, EPA works with government partners and stakeholders to achieve effective implementation.*

But the YRCAA has attempted to prevent Yakima County Citizens from engaging in policy making and CAA implementation.

1. The YRCAA ignored citizen request to join the selection committee for a new YRCAA Director. See Meeting Summary for the YRCAA Board Meeting Aug. 11, 2016
2. The YRCAA ignored citizen concerns about the make-up of a selection committee for the YRCAA Executive Director See Meeting Summary for the YRCAA Board Meeting September 8, 2016 and Attachment 34.
3. The YRCAA has not responded to clearly described concerns and messages from citizens. See Attachments 1 through 20.
4. The YRCAA has placed barriers in the path of citizens who wish to dialogue with the agency. See Attachment 16.
5. The YRCAA staff has given the YRCAA Board incorrect information. See Attachments 11 & 20.

6. In 2014 the YRCAA invited citizens to participate in an advisory group to guide formation of a plan to address high levels of fine particulate matter in Yakima County – the *PM Advance Program Path Forward.* The EPA looks for citizen advisory groups when they approve such plans. In the 2015 the plan YRCAA stated:

> *A stakeholder group has been assembled to participate in a "Clean Air Task Force." Interests represented include: Industrial Sources; General Public; Construction; Citizen Environmental Groups; Municipalities; Academia; Agriculture; Economic Development; Hearth Products; Forestry; Transportation; Adjoining Air Jurisdictions; Public Health; and more. The list of persons participating is shown in Appendix E.*
>
> *The group has met routinely since August of 2014 and has participated in the control strategy development and selection of additional reduction measures and programs. Additional reduction measures and programs to be implemented immediately are detailed in Appendix F. <u>The group will remain active and will meet no less frequently than semi-annually.</u>* (Emphasis added)

Contrary to the YRCAA promises, the advisory group has not met since 2015. The same advisory group is listed in every annual report, in spite of the fact that several members have retired and no longer live in the area. See Attachments 35 – 38.

7. The YRCAA has stated that citizens will not be allowed to attend meetings in which the agency discusses revisions and updates to the WA State Implementation Plan (SIP) for Yakima County. This effectively eliminates citizen input. It is nearly impossible for lay people to participate in discussions that are 18 months in the making when they only receive a summary overview of the content and have 30 days to study the material.

EPA's *The Plain English Guide to the Clean Air Act* states:

> *Often, when EPA is working on a major rule, the Agency will hold hearings in various cities across the country, at which the public can comment. You can also submit written comments directly to EPA for inclusion in the public record associated with that rule. <u>Or, for instance, you can participate in development of a state or tribal implementation plan. Commenting on a state or tribal plan could be worthwhile since approaches for cleaning up pollution could have direct effects on the way you and your family live.</u>* (Emphasis added)

To summarize, the YRCAA no longer addresses emissions from CAFO dairies, ignores and hides valuable research, presents erroneous information as fact, flaunts the law regarding conflict of interest and makes it very difficult for citizens to engage in air policy for Yakima County. The Friends of Toppenish Creek ask Ecology to consider opening an investigation into the YRCAA as authorized by RCW 70.94.405.

Sincerely,

The Friends of Toppenish Creek

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Attachments:

1. Hydrogen Sulfide

2. VOC

3. Excel Dairy

4. Emissions Data from Two Freestall Dairies in Washington State

5. Letter re Article in the Toppenish Review Independent

6. Article in the Toppenish Review Independent

7. PNAS Importance of Deposition of Reduced Nitrogen

8. Letter re Conflict of Interest I

9. Environmental Health Perspectives – Preterm Births and PM 2.5

10. Letter re Conflict of Interest II

11. Letter re Ag Task Force I

12. Letter re Ag Task Force II

13. Letter to Attorney General

14. E-mail correspondence with YRCAA Board Chairman

15. Air Pollution and Public Health

16. Community Forums

17. Apology

18. Letter re Conflict of Interest III

19. Letter re State Implementation Policy

20. Letter re Accuracy of Information

21. Letter to YHD re Manure Spraying I

22. YHD E-mails re Manure Spraying I

23. Letter from YHD re Manure Spraying

24. Letter from DOH re Manure Spraying

25. Letter to YHD re Manure Spraying II

26. YHD E-mails re Manure Spraying II

27. Letter to YHD re Manure Spraying III

28. DOH E-mails re Manure Spraying

29. FOTC Statement re Rejection of Manure Spraying Petition

30. Public Comments re AQMP Policy for Dairies

31. AQMP for Dairies 2014 Report to YRCAA Board of Directors

32. Research Related to Public Health and Animal Feeding Operations

33. Letter from Rep. Johnson to WA Attorney General re Conflict of Interest

34. Regarding Selection of a YRCAA Executive Director

35. YRCAA PM Advance 2014

36. YRCAA PM Advance 2015

37. YRCAA PM Advance 2016

38. YRCAA PM Advance 2017

39. Letter from YRCAA re SIP

March 4, 2019

Dear Director Bellon,

On January 31, 2019 the Friends of Toppenish Creek sent you a request to investigate the Yakima Regional Clean Air Agency (YRCAA) as authorized by RCW 70.94.405. We now ask you to add these further concerns to that request.

We apologize for the ongoing nature of this complaint. But . . . YRCAA continues to marginalize the citizenry and postpone actions that would improve air quality in Yakima County.

In Brief:

1. It is increasingly difficult for citizens to engage the YRCAA Board of Directors, the group responsible for air quality in Yakima County.

2. The YRCAA has concealed information from the public regarding the eligibility of private citizens to serve on the YRCAA Board.

3. The YRCAA has made statements that are incomplete, misleading and, in some critical situations, untrue.

In Depth

1. It is increasingly difficult for citizens to engage the YRCAA Board of Directors, the agency responsible for air quality in Yakima County. Citizens have to work very hard in order to be heard.

A. For several years people have asked permission to address the YRCAA Board of Directors at the end of Board Meetings, instead of the beginning. Citizens believe this would give us an opportunity to elaborate on and sometimes correct misleading statements made by the YRCAA staff.

Example:

- In March, 2017 the YRCAA Director gave a report on the YRCAA Agricultural Task Force. We could not comment at the meeting even though we knew that the Board did not hear the entire story. The Public Comment Period preceded the Director's Report.
  We asked to be put on the agenda regarding the Agricultural Task Force in May, August and October. Our request was not approved and our concerns were not heard in a public meeting. We sent a letter outlining our concerns and none of the Board Members responded.

B. Citizens can only address issues that are on the agenda and only for three minutes. We are not allowed to introduce other concerns that relate to air quality. In order to do that, we must ask to be put on the agenda ahead of time. (FOTC acknowledges that YRCAA has no legal obligation to let citizens address the YRCAA Board of Directors.)

Examples:

- In the spring of 2018 Sandy Braden from FOTC stood up to speak at an YRCAA Board meeting. She was told to stop because her subject was not on the agenda. Subsequently two other citizens approached the podium with 1. A concern about enforcement of burn bans, and 2. Information about Climate Change. Neither had requested time and neither subject was on the agenda. The Board decided to make a one-time exception and subsequently allowed the two gentlemen and Ms. Braden to speak.
- On January 22, 2019 Sandy Braden asked the YRCAA to put a question regarding burn permits on the agenda.
    - On February 13, 2019 Director Hurley informed her:
      I am writing to inform you that no Board Member elected to place your request on the February 2019 agenda. As always you are still welcome to come and speak during the public comment period.
    - Ms. Braden went the extra mile and contacted a board member and an alternate to learn why they did not ask to have the discussion placed on the agenda. Neither had received the information. (Attachment 1)
    - The Large City Representative on the Board, Carmen Mendez, subsequently asked the Director to put the discussion on the agenda and this is scheduled to happen in March.
- On January 24, 2019 Jean Mendoza sent the YRCAA Board of Directors an e-mail describing incorrect information from the August, 2018 and September, 2018 Board Meetings. (Attachment 1)

- On February 1, 2019 Director Hurley responded by e-mail but did not offer to make any public corrections.

- On February 8, 2019 Ms. Mendoza asked to be placed on the February 14, 2019 agenda so she could explain the federal law and ask the YRCAA Board to advocate for Yakima County citizens. She also asked that Ms. Braden be placed on the agenda to present concerns about burn permits.
    - Mr. Hurley replied that none of the Board Members asked to have these discussions placed on the agenda.
    - On February 16, 2019 Ms. Mendoza forwarded the February 8, 2019 e-mail to each Board Member at their YRCAA e-mail addresses with this message:

        It has come to my attention that some of you may not be receiving e-mails from the Friends of Toppenish Creek. Would you kindly reply to this forward and let me know that you have received it?

    - None of the Board Members responded. FOTC can only assume that they are either not receiving their e-mails or have agreed to ignore us.

2. The YRCAA has concealed information from the public regarding the eligibility of private citizens to serve on the YRCAA Board.

Norm Childress, the Mayor of Grandview, served on the YRCAA Board of Directors as the Small City Representative for several years. In November, 2018 Mr. Childress was elected to serve as a Yakima County Commissioner. The Commissioners decided that he would represent the County Commission beginning in 2019. This left the Small Cities Position vacant.

On November 28, 2018 the YRCAA posted a legal notice in the Yakima Herald Republic stating that the City Selection Committee, a legally defined group of small city mayors, would select a replacement.

YRCAA did not inform the City Selection Committee or the public that this position could be filled by a private citizen as stated in the YRCAA Administrative Code Part A:

1.3 Board Composition and Selection

Pursuant to RCW 70.94.100, the Board shall be comprised of two appointees of the city selection committee, at least one of whom shall represent the city with the largest population in the county, and two representatives to be designated by the board of county commissioners. If then, the Board consists of an even number; the seated members shall elect an additional member who shall be either a member of one of the governing bodies of the towns or cities, <u>or a private citizen</u> residing in the authority.

No one was selected by the City Selection Committee. We do not know why. On February 9, 2019 the legal notice was posted once more. There was no statement about the eligibility of private citizens to serve.

At the February 14, 2019 YRCAA Board Meeting two of the members asked Director Hurley whether a private citizen could fill that position. He replied that he did not know. He anticipates that the position will be filled for the April, 2019 Board Meeting.

In summary, the YRCAA has been aware of a vacancy on the Board of Directors since November 2018. That position will not be filled until April, 2019 at the earliest. That position could be filled by a private citizen but no one has been informed of this option.

3. The YRCAA has made statements that are incomplete, misleading and, in some critical situations, untrue.

A. On April 12, 2018 the YRCAA Board of Directors held a study session for *Review of legal costs and exposure related to the Air Quality Management Policy for Dairy Operations.* The Executive Memorandum for this study session described a 2011 civil action in which the Citizens for Sustainable Development sued the YRCAA for failure to comply with the law regarding public records requests. YRCAA stated that the costs to the agency and ultimately the tax payers was ~ $180,000 (See Attachment 2, YRCAA April Board Packet)

- The memorandum did not relate why the civil action was initiated in the first place; what the Citizens for Sustainable Development alleged in their law suit
- The YRCAA staff did not show the board the redacted documents at the heart of that law suit. They had been so severely blacked out that there was no information whatsoever.
- There was no acknowledgement of the community's right to study data from the industries that send pollutants into the Yakima County air
- There was no discussion about how to avoid lawsuits by complying with the Public Records Act

B. In 2014 the YRCAA agreed to participate in an EPA program entitled PM Advance with a goal of reducing emissions of particulate matter using a community based approach. This involved creation of a community advisory group. In the 2015 Update to EPA the YRCAA stated, "The group will remain active and will meet no less frequently than semi-annually." (Page 10/35). <u>In fact the advisory group did not meet after 2015</u> but the YRCAA sent updates in 2016 and 2017 citing the advisory group and listing members who no longer work or live in the area.

- In the 2016 Update, YRCAA stated:

A stakeholder group has been assembled to participate in a "Clean Air Task Force." Interests represented include: Industrial Sources; General Public; Construction; Citizen Environmental Groups; Municipalities; Academia; Agriculture; Economic Development; Hearth Products; Forestry; Transportation; Adjoining Air Jurisdictions; Public Health; and more. The list of persons participating is shown in Appendix E.

The group has met routinely since August of 2014 and has participated in the control strategy development and selection of additional reduction measures and programs. Additional reduction measures and programs to be implemented immediately are detailed in Appendix F. The group will remain active and will meet no less frequently than semi-annually.

- The 2017 Update states (Page 36/36) "The group affirmed existing funding mechanisms and agreed that all should be maintained." and "The group was unable to identify any significant additional funding mechanisms."

- But the advisory group has not met since 2015.

C. As of February 28, 2019 there is inaccurate and misleading information on the YRCAA website:

- The YRCAA Fact Sheet , *Animal Feeding Operations*, states:
    - Concentrated Animal Feeding Operations are facilities that require federal National Pollutant Discharge Elimination System (NPDES) water quality permits, irrespective of size. This is not true
    - Calving operations, dairy operations and poultry operations are regulated within YRCAA's jurisdiction. This is not true
    - Animal Feeding Operations (AFOs) are required to register initially and annually with YRCAA. This is not true. (Attachment 3)
- The YRCAA Fact Sheet, *New Source Review*, states that:
    - Dairy operations require New Source Review. To the best of our knowledge this is not true. If it were true then dairies would have to estimate emissions of toxic air pollutants as defined in WAC 173-240 (Attachment 4)
- Under *About YRCAA* the website states:
    - "Board Meetings are traditionally held the second Wednesday of each month." This is not true.
    - "Bill Kramer was the first Executive Director/Air Pollution control Officer (APCO) for the Authority from 1967 to 1972. Bob Crossland served from 1972 to 1989 and Tom Silva served from 1989 to 1995. Les Ornelas served from 1995 to March, 2006. Lawrence Odell served from April to October, 2006, and Gary Pruitt assumed the directorship in October, 2006, and

continues to serve to the present time." This is not true. Keith Hurley has been YRCAA Director since 2017

- "The YRCAA is delegated to enforce certain Federal Regulations, the Washington Clean Air Act, State Regulations and YRCAA Regulations, within the boundaries of Yakima County. This applies to all areas of Yakima County except for Yakama Indian Reservation lands, which are overseen by the Environmental Protection Agency, and fall under the Federal Air Rules for Reservations (FARR) regulations." We believe this is untrue. We believe that FARR has not been implemented on the Yakama Reservation.
- "The air pollutant of greatest concern is particulate matter. The county's sunny climate, pollution-trapping mountains and valleys, along with the growing population, all contribute to the problem." This is misleading. According to the Yakima Air Winter Nitrate Study approximately 33% of the particulate matter in the Sunnyside area is due to animal agriculture, but YRCAA leaves out this important information.

- Under Community Forum YRCAA states:
  - "Meetings shall be audio recorded and a written meeting summary shall be prepared by Agency staff."
  - Why is this important?
    - YRCAA conducted a Community Forum in December 2018.
    - At the meeting FOTC understood YRCAA to state that Chapter 34.05 RCW prevents the YRCAA from allowing the public to participate in or attend discussion of the upcoming SIP revision; that the public would have an opportunity to comment after the revisions are completed. (Attachment 1)
    - In an e-mail Director Hurley disagreed and stated, "At the December Community Forum I *did not* state that 'Chapter 34.05 RCW prevents the YRCAA from allowing the public to participate in or attend discussion of the upcoming SIP revisions.' Nor did I say 'the public would have an opportunity to comment after the revisions are complete.' What was said by me is that this agency will follow the procedures outlined in RCW 34.05 and those procedures clearly allow for public participation." (Attachment 1)
    - The December 2018 Meeting Summary for the YRCAA Community Forum did not cover this discussion, nor did it cover other significant discussions. As far as the summary was concerned those discussions did not take place.
    - When FOTC suggested that Community Forums should be recorded to avoid "he said, she said" neither YRCAA nor the Board responded.

- This means that, by default, the agency is assumed to be telling the truth and citizens are assumed to be insufficiently informed and make accurate statements
- When FOTC came across the posting on the YRCAA website that mandates recording of the meetings we thought we had discovered a way to defend ourselves. We asked for an audio tape. The YRCAA said they would make one
- We made a trip to the agency and paid for a CD.
- The CD we received contained a recording of the December 2018 YRCAA Board meeting.
- We called and asked again for a recording of the Community Forum. We were told that would be forthcoming
- A few days later we received a phone call to let us know that the Community Forum had not been recorded.
- This gives new meaning to the term "bureaucratic runaround". This is not good government.
- In spite of the assertion that the public can attend SIP discussions the YRCAA has yet to tell FOTC when these will be scheduled.

D. On January 21, 2019 FOTC Executive Director Jean Mendoza sent Director Hurley a letter with questions and concerns related to the December, 2018 Community Forum. (Attachment 1) That letter included this observation which had previously been shared with the former YRCAA Director, Gary Pruitt.

Section 3.08 B Specific Dust Controls in YRCAA Regulation 1 states on page 3-44::

> ***4. Requirements.***
> *a. Visible Emissions. Sources are required to comply with subsection 3.01C1a.*
> *b. Preventing Particulate Matter from Becoming Airborne. Sources are required to comply with subsection 3.01C1b.*
> *c. Odor. Sources are required to comply with subsection 3.01C1d.*
> *d. Emissions Detrimental to Persons or Property. Sources are required to comply subsection 3.01C1e.*
> *e. Fugitive Dust. Sources are required to comply with subsection 3.01C2c.*

But Section 3.01 had been repealed. See page 3-3 of Regulation 1

Mr. Hurley simply replied "Section 3.01 was repealed by Amendment 1 in December of 2003." He did not acknowledge a need to correct this longstanding deficiency.

This means that YRCAA appears to have specific dust control regulations in place that address visibility, fine particulate matter, odor, harm to person or property and fugitive dust but in fact does not.

E. In July of 2013 the YRCAA Board of Directors approved an *Air Quality Management Policy for Dairies.* That policy stated in section X:

> ***X. When and How Will This Policy Be Evaluated?***
> *1. This policy will be evaluated as needed and no less frequently than every two years;*
> *2. The evaluation of the policy will be conducted jointly by YRCAA staff and the Agricultural Task Force and will be based on its effectiveness at reducing air emissions and reasonableness of implementation; and*
> *3. The YRCAA Board of Directors will approve any changes to the policy.*

The policy was only evaluated once, in 2014. At that time there were recommendations but the recommendations were never approved by the Board of Directors.

There were also recommendations regarding frequency of dairy inspections. These were not formalized by the board and were not carried out in practice. Consequently dairies with a score of "D" were not inspected every six months as proposed. But this is the impression given to the public.

Sincerely,

Jean Mendoza

Jean Mendoza

Executive Director, Friends of Toppenish Creek

cc.

Environmental Protection Agency

Attachments:

1. FOTC – YRCAA E-Mails 2019

2. Complete Board Packet April 2018

3. Animal Feeding Operations

4. New Source Review